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THE ORGANIZATION AND ADMINISTRATION OF PHYSICAL EDUCATION

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THE ORGANIZATION AND ADMINISTRATION OF PHYSICAL EDUCATION

BY

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DEDICATION

To Margaret and Grace, to girls and boys everywhere, this book is inscribed, with the knowledge that men and women are increasingly more sensitive to your needs, and with the conviction that they will provide you all with better and more opportunities for health and happiness.

PREFACE

The development of physical education in America has been desultory always and, at times, even aimless. The manual training movement was forgotten in the enthusiasm over Dio Lewis' *New Gymnastics*. Catharine Beecher's *Calisthenics* for women lasted long enough to develop a reaction towards other types of work. Delsarte had its short moment; now it is gone. Too often we have installed the work of physical education with a shout, we have supported it with cheers, and we have seen it dwindle and die without even a tear.

It is a pleasure to record a different temper today. School people are serious in their consideration of the matter. Principals, superintendents, and presidents are making plans for modern physical education, after careful study of the needs of boys and girls and the opportunities that physical education can offer to help meet these needs.

The old systems, the old traditions, so carefully nourished by certain normal schools and training centers, are being subjected to a criticism that will eventually relegate to the limbo of forgotten things, the unscientific, the unserviceable, and the unsound practice of our programs. School men and physical education experts are seeking guides and standards for the work and are unwilling to accept the aims, purposes, guides, and standards of any school of physical education unless they are based on scientific foundations.

The great variety of work offered in the schools has contributed to confusion in organization and in super-

vision. The many requests for help and information coming not only from teachers of physical education, but also from school men themselves, have led to this effort to provide a book dealing with problems of organization and administration.

To help set standards, to help state the facts that are scientific and demonstrated, to suggest tests and guides that can be used, and to report favorable progress in this field, is the purpose of this book. School principals, superintendents, presidents of colleges and universities, as well as teachers and directors of physical education, have helped to shape its pages. Consideration of their problems in the field has grown into a course of lectures and the lectures, ultimately into the chapters that open before you. This is their book; it seeks to serve them.

The point of view of modern physical education, guiding principles in organization and administration, objects, content, and material of physical education seemed to be necessary subjects for discussion before a detailed analysis of the administrative problems could be given. Thus, the first three chapters deal with a point of view and principles by which we are guided in our subsequent choices and decisions. This arrangement rationalizes the procedure and makes for understanding.

I am indebted to many for help and suggestions. In particular may be mentioned Dr. Thomas D. Wood, whose criticism and guidance have been most valuable. Whatever of merit there is in this book I owe largely to him, who has been an inspiration not only as head of department but also as counsellor and friend. Miss Helen Frost, Miss Nita Sheffield, Miss Lucy Wallrich, Mr. J. Blake Hillyer, Miss Amy Morris Homans, Miss Gertrude Dudley, Miss Florence Stuart, Professor C. W. Savage, Dr. R. Burton-Opitz, Dr. J. W. Wilce, Dr. W. R. Morrison, Dr. Helen Todd, Mr. Daniel Chase, Miss Jessie

Whitham, and Professor Agnes Wayman have helped, some by criticising the entire manuscript, others by correcting or verifying doubtful points. This acknowledgment is not a shifting of responsibility; the mistakes, errors, omissions, where they occur, are mine.

For important and valuable work on the text I am indebted to Gena Hickox.

Jesse Feiring Williams.

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The Organization and Administration of Physical Education

CHAPTER ONE

Modern Physical Education

Historical.—Civilized society has always felt the need for the physical education of its members, except in brief periods such as existed in the Middle Ages, when asceticism in the early Christian church set a premium upon physical weakness in order to attain spiritual excellence. The people of Persia, Egypt, India, and China had methods of body training even before the Greeks had them, but the latter are to be regarded as the first people to establish and maintain a national system of physical education based upon high ideals and thorough training. The festivals held at Olympia, Corinth, Nemea, and Pythea witnessed the very acme of excellence in development of the body of man. Later, in Rome, physical education, directed to military ends, became an essential part of the training of the boys of all citizens; but with the break-up of the Roman Empire there came upon the world a pall of darkness, gloom, and even despair. Asceticism and scholasticism held the minds of men in ecclesiastical bonds that prevented a rational approach to the question of education in any of its aspects.

The Renaissance of the fifteenth and sixteenth centuries broke the bonds of ecclesiastical tyranny and rebelled at the conception of schooling as pure discipline. For a while, the manuscripts of Greek life and education served

as the only guide and led to such extremes that the followers of the movement endeavored to express their thought only in the classical language. To-day in the effort to get away from formal discipline in the gymnasium, to escape the artificial, traditional, formal calisthenics and gymnastics, physical educators are wont to declare that the Greek idea in athletics and gymnastics is the only solution to the problem. In proof they cite the fact that games and contests among the Greeks were not indulged in haphazardly as they are to-day, nor were they participated in by the few for the entertainment of the many (1). Success with the Greeks was the perfect performance with reference to form, grace, skill, and control of temper —not the winning at all costs which characterizes so much of our amateur sport in America and Europe. The Pentathlon as an event represented an achievement, the satisfactory performance of which ranks in many respects above our "letter" standards in school and college athletics.

Between the Greek and modern physical education is a great gulf, fixed in part by the various systems of gymnastics that have developed to serve the needs of nations and peoples. The years between have witnessed the remarkable experiment at Mantua in 1425 by Vittorino da Feltro, who called his school "La Casa Giocosa," or the House of Delight; the spirited work of Guths Muths at Schnephenthal in the latter part of the eighteenth century; the untiring zeal of those two soldiers of fortune, Clias in England and Switzerland in 1822 and Amoros in Paris in 1820; and the epochal achievements of Nachtigall in Denmark in 1799. Ling in Sweden and Jahn in Germany stand out as the two leaders who achieved for their respective countries national forms of physical education. Later their systems, ideas, and principles were carried to America by political refugees and

enthusiastic propagandists. It is important to note that in the period from the Renaissance to the nineteenth century, the systems of physical education were developed by patriotic teachers without scientific guides and principles. They failed to make a study of the child. They knew no psychology, and the little physiology that they had was largely incorrect. They ignored Rousseau's teaching and the contribution of the educational leaders who helped to shape the educational practice in all lands.

The two "systems" of physical training best known in the United States are the German and the Swedish.

The German system of gymnastics introduced in America by Lieber, Beck, and Follen is mainly due to the personality and organizing genius of Friedrick Ludwig Jahn, known to all German Turners as "Father Jahn" (2). With Jahn the development of gymnastics was not connected with educational aims and purposes. It was an outgrowth of the political situation in France and Germany.

Napoleon defeated the German forces at Jena in 1806, and the treaty of Tilsit in 1807 deprived Prussia of half her territory. This encroachment on his Fatherland aroused a controlling passion in Jahn's life and he used all his powers to bring the scattered German provinces together. Love of country therefore was the great factor in the development of the gymnastic societies. Professor Leonard expresses the motive when he says, "His idea was to unite the people of Germany into one nation, physically, intellectually, and morally strong, against the threatening enemy of the west."

As a "system" therefore it was unscientific. It represented no study of the nature of man, nor the essential biologic and social needs of the individual, nor study of the past. It was merely the expression of a patriotic and noble soul who instilled into the German nation the

idea of having better soldiers to uphold the flag of the Fatherland.

The Swedish system is commonly known as a scientific system, founded on anatomy and physiology, and therefore, it is claimed, substantially correct. It should be noted that the founder of the system, Per Henrik Ling, died in 1839. It was not until thirty years later that the several discoveries in physiology were coördinated into a body of scientific knowledge.* The "system" was not based on scientific principles at all. Moreover it is important to remember that it was born in the same kind of soil, watered by the same kind of rain, and blossomed forth in response to the same rays of patriotism that had been arousing the German nation (2). The Swedes had been suffering national losses on the south and east of the Baltic, due to the aggressions of France and Russia. Given a man with an artistic temperament, in a moment of national danger, and at once he can conceive the people developed into perfect soldiers arrayed in phalanx, dealing death-destroying charges to the oncoming enemies.

Per Henrik Ling first became interested in fencing, and later studied anatomy and physiology. He was eager to see his countrymen strong in body and soul, as is shown in his poems, dramas, and writings on gymnastics. Ling is known as the "Father of Gymnastics," but again, his work, as Jahn's work in Germany, was a system of exercises, developed to provide strong soldiers for the native land. The conception that muscular power was the requisite for political safety in a nation of weaklings was easily arrived at. There was little study of the child, no special knowledge of his interests and desires, no appreciation of social instincts. It was truly an adult-

* The graphic method devised by Ludwig (1816–1895), the work on chemical physiology by Liebig, Pflüger, Hoppe-Seyler, and others in the latter part of the nineteenth century, the monumental work of Johannes Müller mark the beginning of scientific physiology. Complete historical data is given by Verworn, *Allgemeine Physiologie*. Jena, Verlag von Fischer, 1897.

conceived, formal, anatomical system. As such it remains in essential characteristics to-day. What physiology governed it, erred largely, and yet the traditional reasons and arguments cling to the system. Its justification is in its insistence, very much, like the claim for the use of the boy's garment to protect the man—it served at one time, it should be used now.

It is interesting to observe and important to understand that these two systems, the German and Swedish, came into existence because of military needs; it is significant with reference to the tendency in modern physical education, that the War Department of the United States, in developing the new national army, placed the emphasis on games and sports. Setting-up exercises were used to some extent, but not in the old way nor with the old emphasis. Football, basketball, boxing, wrestling, mass games, and track sports, replaced both in physical and disciplinary training the systems so worshipped by the Germans and the Swedes.

A new view point.—It is unfortunate that the general public thinks of physical education as having to do primarily with formal calisthenics and gymnastics. The student of physical education is being trained in progressive institutions today along other lines than the "day's order" and with material more related to living than "giant swings" and "waltz series." The educational administrator is asking for a more functional program and a less stereotyped teacher (3).

The new view point with reference to physical education aims and program is well expressed by Professor Rapeer in a preliminary report on *Minimum Essentials in Physical Education.* His view is worth repeating at length:

> Modern theory is opposed to the customary aims of physical training as given by many physical training directors in so far as they are

dominated by faculty psychology and an extreme confidence in formal discipline. General 'obedience' (to commands), general power of 'determination,' of 'order,' of 'exactness and precision,' of 'self-control,' of 'endurance,' etc., cannot be developed to any great extent by gymnastics or any other phase of school activities. One may gain great powers of self-control, precision, and determination in certain phases of school work without showing or possessing such agilities when outside of the school environment in which they were developed. This again lessens the emphasis on formal physical training and strengthens the emphasis on purposive psychological play and work.

The progressive physical educator today is in favor of combining and unifying physical and mental education as one purposive system of activities having their own end, and he sees the tendency very strong in this direction in up-to-date schools. He is in favor of using as many instinctive play activities as possible, but he realizes that our highly artificial systems of schooling, with their present buildings, grounds, equipment, and courses will long resist the transforming tendencies of the modern theories and science of education. For this reason he offers a limited amount of formal physical training indoors when necessary because of weather, yard, or street conditions, outdoors whenever possible.

The tendency in modern physical education must be appreciated and the fundamental reasons for the tendency understood, if there is to be a real and intelligent effort made to correct the unfavorable physical environment of the school. It cannot be too strongly stated, therefore, that physical education as a procedure and practice in education should not be judged only by the adaptability of its material to abnormal conditions. The correct, the ideal, the purposive aim should be clearly set forth and every effort and agency used to provide in the school or community opportunity for the sanctioned program.

Old aims inadequate.—The aims in this field have been set forth vaguely and in many instances have been unacceptable. Too often the aims are confusing; frequently they are so impoverished that no educator is willing to give sanction for work based on such purposes. At a recent convention of physical educators the following statement indicated this confusion:*

* Williams, Jesse Feiring,—*American Physical Education Review.* Nov. 1916.

As confirmative evidence that our schools are not adequately meeting the problems involved in the training of teachers of boys and girls, of young men and young women, let me call your attention to the different aims set forth at a recent conference in physical training.

1. Skill, strength, and endurance as ends in training for citizenship.
2. Deliberation, reflection, determination, perseverance, and self-control as ends in physical training.
3. The development of morality through physical education—accomplished by obedience to authority.
4. The purpose of high school athletics is for the development of the individual in physique, skill, self-confidence, and efficiency.

Is it not fair to ask the question, How are we to get anywhere with such confusion in stated aims and purposes? Our normal schools need a unifying principle bringing us all together, ready and equipped to work with each other, and with enough understanding and appreciation of the aims and purposes of those engaged in the general field to make for unity and solidarity of action. We need to get together and predicate our efforts to the education of one and the same child. The superintendent or principal of schools cannot afford to be narrow in this respect either. He needs us as much as we need him. We cannot shut ourselves off from the general field and say that we are so specialized that our work does not concern other teachers and that their work does not concern us.

It will be found that the confusion in aims is due to the varying conceptions of the relation of mind and body, of formal discipline, of the importance of utilization of instinctive tendencies, and of the limitations of school life as evidenced in equipment and opportunities of most schools and colleges.

The old systems of physical education, fallacious in theory, have furthered the confusion. The German system of gymnastics as developed in the United States is closely associated with the Turnverein movement and with the expression of German ideas in other fields. The cities which have a large German population best illustrate the working of the German system. It is interesting and important that physical education in Cincinnati, Milwaukee, and St. Louis is primarily German in type, and yet it represents in results no particular achievement. In comparison with New York City, Detroit, San Fran-

cisco, and other places it is distinctly inferior. "This may be due to other factors. Worthy of mention is the "Turnverein type" of instructor seen in these schools. Many of them have not even a high school education and, in some cases, represent training that is not the most favorable from the standpoint of teaching.

The Swedish system of gymnastics is more widely spread in the United States than the German. At one time it was followed in detail in Boston and other New England cities, but even in this field it has undergone modification that leaves little of the sort of thing that delighted the eye of Posse, Nissen, and Bollin. Its influence today is felt mainly in the general failure to recognize the fallacies of formal drill, with emphasis on development of coördination in general and good posture in groups. President Hall some years ago saw the need in this field. He says:*

> On the whole, while modern gymnastics have done more for the trunk, shoulders, and arms than for the legs, it is now too selfish and ego-centric, deficient on the side of psychic impulsion, and but little subordinated to ethical or intellectual development . . . Its need is radical revision and coördination of various cults and theories in the light of the latest psycho-physiological science.

The modern educator concerned with the organization of physical education and the director concerned with the administration of physical education will not adopt either of the systems discussed. He will be exceedingly critical before he attempts even to adapt them. It is important to give more at length the reasons for this categorical statement.

Fallacies in aims.—Those who deify systems and hold exclusively to prescribed gymnastic arm, leg, and trunk exercises are sustained in their own thinking by two closely related motives. One motive aims at the promotion of bodily health by muscular contraction and

* Hall, G. Stanley, *Adolescence.* pp. 206–207. D. Appleton & Co., New York, 1911.

deep breathing; the other aims to provide an antidote for the unhealthful customs, tendencies, and conditions of modern life. In the final analysis, both motives have health as the *raison d'être* for their work.

It should be stated clearly that the first motive errs in ascribing to muscular contraction and deep breathing such pronounced health-giving qualities. While it is true that exercise is essential for vigorous health, it is equally true that the ignoring of all the other elements necessary in health, such as psychic and social factors, and the building of a system based on muscular contraction and perspiration, is the greatest mistake of those in this field. This error is evident to those who witnessed the opposition to state physical education in the New York Legislature in 1921. The rural children greatly need the social values in physical education; but the opposition to the law was from the rural representatives. Health cannot be defined in terms of large muscles or lung capacity.

The second motive errs in accepting conditions of life to-day as necessary and permanent, and defending a system based upon essentially abnormal conditions. It is more important to work for more playgrounds, more play spaces, more play time, in school and out, than to build up elaborate arguments to defend a system designed to provide formal calisthenics in concentrated form because play and natural activities are not possible in the scheme of things in many schools. We should realize that formal calisthenics and gymnastics are a deformity in education and we should seek a cure (4). It is important also to note that although the health problem is prominent in the consideration of physical educators, often they have little appreciation of what is involved in its solution. Frequently classes in calisthenics for the purpose of securing health are held in dirty, foul, dark gymnasia. In

this way, too exclusive attention to special exercises often leaves the teacher negligent of the hygienic and sanitary part of the program.

Physical education and general education.—The modern tendency in physical education should be to harmonize the special program and the general curriculum. It is important to realize that the purpose of physical education should in the main be the purpose of all phases of education. The same goal should be aimed at. Now while educational theory is breaking away in many places from the traditional method and material of the older type of instruction (5), physical education can with less justification sanction its program upon formal and disciplinary grounds. To express the reaction in educational theory, a recent editorial in the *Saturday Evening Post* is given in part:

> Here is a healthy boy of twelve. What we most want of him is that he shall develop himself in character and ability to the utmost extent of which he is capable. If there is a precious little spark of originality or germ of leadership anywhere about him, we most want him to discover that and develop it, for there is never enough leadership and originality in the world. We are always wanting inventors and leaders in industry, in politics, in science, in art.
>
> So we take this boy . . . and we give him certain carefully prescribed books, none of which interests him very much, and tell him it makes no difference if one of them happens to interest him more than another; he must give exactly the same attention to all of them for rigidly prescribed periods.

By interpolating the procedure of physical education we may say that we take him to the gymnasium with sixty to one hundred others and make him go through a series of arm, leg, and trunk exercises, designed to produce health and coördination, and to correct the injurious effects of his class room attendance. We pay scant attention to his social and biologic interests and desires. We neglect his preadolescent interests for loyalty to causes and high ideals. We exercise him . . . a kind of

exorcism. It apparently matters little that he hates "gymnasium," that he gets out of it whenever he can.

The editorial continues:

> He is good in proportion as he takes the books, just as some well-regulated machine takes whatever is fed into it. He is good in proportion as he submits to a cast-iron, mechanical regimen, and represses all impulses that are not in strict conformity with unvarying rules . . . which, for a healthy boy, means repressing practically all impulses.

In similar fashion, he is good in proportion to the obedience he gives a teacher who commands him to do an exercise that has no mental content, no interesting situation, that is void of all attractiveness. The command is to stretch the left arm upward, the right sideward, and stand on the toes. His whole body is crying to be tested in a game with the other boys in which accuracy of aim, strength of legs, or quickness of thought will bring success.

Now, in seeking health and coördination, these muscle-bound minds of our "systematic" teachers forget the child in teaching a system of gymnastics devised by a patriotic German for Germans or a poetical Swede for Swedes.

A rational tendency.—A present day tendency in physical education seeks a procedure that provides knowledge, skill, control, and aspirations as outgrowths of activities which in themselves are desirable ends and satisfying to human interests and desires. For example, children in folk dancing will, if properly taught, develop knowledge of folk lore and folk life, skill and body control, and certain social values in working harmoniously with other people, as an outgrowth, as a result flowing out of the dance, which in itself was an end, and satisfying to the child; again, boys and girls in certain games, under proper direction and supervision will develop skill and body control, loyalty, truthfulness, and honesty (by being in situations that require decision and action), and certain

social values, as coöperation and self-sacrifice as a resultant of the game, which in itself was an end and satisfying to the boy or girl. Cook, in that remarkable book, *The Play Way,* testifies to this method for the development of moral and social values when he says:

> I tell you that sincere endeavor and honesty of purpose can only be relied on under conditions that favour their continuance.

No system can be sanctioned that is based upon the development of muscles merely. The essential unity of the child, the tremendous need today for men and women possessing fine qualities of citizenship, the growing appreciation of the importance of play-forms in education (6) indicate the poverty of the muscle-building program.

The progressive educator will therefore not readily adopt or adapt any "system." He will look upon muscular strength as not an end in itself. He would then value more highly attitudes of mind behind the muscles, because for human beings and for the highest realization of human effort, the body is best considered as the instrument of the mind, the organ of expression for the soul and personality of the human being, and not as an object of development or culture for its own sake. The splendid physical bodies of the German people and the poverty of their moral possessions, as shown in 1914-1918, illustrate perfectly the thought here. More important than muscles, or muscular strength, are the way the muscles are used and the mental content revealed by all action.

The basis for determination of principles for physical education.—Physical education should be a natural, not an artificial process. It should agree fundamentally with the tenets of general educational theory. All education after all is a development from within; we are not all created equal, as is shown by the comparative study of children; education cannot be taken on, but comes through the workings of natural instincts and desires; it is an

internal development, not an acquisition of information (7). Adequate physical education cannot be attained by thinking of it as a system of exercises for health purposes, as a means for developing better soldiers. It must represent an effort to afford the child a wholesome opportunity to express himself in the doing of worthy things (8). It must be guided by the needs of the child from the child's viewpoint, corrected by educational psychology, physiology, biology, and sociology. It must recognize the play instinct, it must renounce the theory of formal discipline; it must vivify the gymnasium with living, purposeful, wholesome forms of play and physical exercises.

It is not surprising therefore that the subject matter in physical education is being criticised by educators because it does not measure up in its purposes, aims, and methods with accepted theories of education as a whole. This is justifiable. That all subjects in the school should be tested alike in their plan of educating the child is a reasonable request; even more than that—it is necessary. Moreover, the demand for new principles expressed in aims and purposes and therefore for new methods and subject matter, is not sectional, nor national—it is international.

Dr. Cloudesley Brereton representing the London County Council at the Fourth International Congress on Hygiene held at Buffalo, New York, August, 1913, said:

> The time appears to have come when education should recognize certain *vérités de* M. de la Palisse. First and foremost of these is the obvious truth that education exists for the child and not the child for education; and, secondly, that though the subjects be many, the child is one, and that therefore whatever education is given to it, that education must be a whole in itself; or, in other words, the subjects, arts, crafts, or accomplishments that are taught, whether they be physical geography or physical exercises, must no longer be taught in watertight compartments, but must take account of each other's presence in the curriculum and, as far as possible, be linked up together into an organic whole.

Our future development as regards curricula, methods, and purposes, must be based not only on anatomy, but also upon social and genetic psychology, educational psychology, physiology, and even philosophy. These sciences and sanctions must guide us in the selection and arrangement of material. There is, in this view, a sharp line dividing the subject matter in physical education. It separates on the one side artificial, unscientific, uninteresting, adult-conceived exercises, and on the other, physical activity which is natural and scientific, based upon the characteristics of child development and the needs of the child. The one is conceived by the adult man as being good for the child without consideration of the child's instincts, interests, or desires; the other represents an opportunity for the child to express himself in the doing of worthy and acceptable things. The one believes in formal discipline, "systems of physical training;" the other looks to the child, an excellent representative of the race, as the trial judge of the material to be accepted. The child's judgment will not always be correct, but it will reveal instincts and will indicate the direction for guidance.

Dr. George Fisher for many years head of the physical department of the International Committee of the Y. M. C. A. writes inspiringly for this modern view of physical education:*

> The new physical training must fit the man to the new age. What does the new age demand? What kind of energy does it require? Not muscular energy, but nervous energy. Not muscular power, but organic vigor.
>
> The new physical training will develop not large muscles, but strong muscles. It will not burn up nervous energy as much of our athletics has done, but it will seek to store up nervous energy.
>
> Because the new age makes great drafts upon nervous energy, it will seek to conserve this valuable commodity. It will eliminate muscle

* Fisher, George J. "The New Physical Training." *American Physical Education Review*, May, 1920, p. 218.

strain. There will be few demands on the attention. It will promote relaxation and will teach rest as well as work. The old emphasis was upon structure; the new emphasis will be upon function.

The new age demands men of initiative, men who are alert, men of imagination. Therefore those types of activity that develop these qualities will be used. These qualities are usually developed in play. Play is creative, poetic, stimulating to the imagination.

The new age demands men who will play the game and play it fair and according to rules. Hence, the ethical side of physical training will be pressed so that it will get into the very habits of men. Note the great contrast in the methods of warfare pursued by the British as compared with the Germans. The British were sportsmen. They could not stoop to the methods used by the enemy. Their training in athletics had developed characteristics of honor and fair play, which made it impossible for the British to be unfair.

> "The sand of the Desert is sodden red,
> Red with the wreck of the square that broke,
> The Gatling's jammed and the column dead,
> And the Regiment blind with dust and smoke;
> The River of Death has brimmed his bank,
> And England is far and honour a name,
> But the voice of a schoolboy rallies the rank,
> Play up, play up, and play the game."

The new physical training will be objective rather than subjective. The old gymnastics was subjective. The new athletics is objective. Gymnastics deal with form and the way the exercise is performed. Athletics deal with accomplishment as, for illustration, the putting of the ball over the line. The old emphasis in physical training was upon materials used. The new emphasis is upon the individuals served.

The new age, because of much of its monotony of work, sordidness, and artificialty, will require of its physical training that it will enrich life, deepen the emotions, enrich the feelings. The new physical training will select those forms of physical expression which develop the emotional life. It will emphasize those exercises related to deep emotional states.

The new age demands social leaders, team play, ability to work with others. The new physical training will be highly social. It will place emphasis upon the group, upon leadership, upon coördinate action. The old emphasis in athletics was upon the spectacle. The new emphasis will be upon participation.

The new physical training should produce the following type of man: slender in type, graceful, not heavy muscularly, clear-eyed, fair-skinned, supple but not tense, alert, erect, easy on his feet, enthusiastic, happy, forceful, imaginative, self-controlled, true, clean, with a sense of fair play, who loves the companionship of his fellows, and who has the fear of God in his heart.

The basis for the determination of principles of physical education has swung from the consideration of man as composed of so many muscles to a point that views man as a unity of mind and body, with spirit or soul as an essential element of the whole. This modern basis holds that for educational purposes man cannot be dissected, the organism must be the object of our study; and that for physical education, too great a reliance on physiologic principles with resulting neglect of the social, moral, and spiritual elements in life produces the "crude, vulgar, self-seeking individual"* so obnoxious in human relationships and so dangerous to the state and nation.

In fact, physical education is much more a matter of the nervous system than of the muscles. It ought to be considered more a qualitative than a quantitative development after all. Hall states this view accurately:**

> Physical education is for the sake of mental and moral culture and not an end in itself. It is to make the intellect, feelings, and will more vigorous, sane, supple, and resourceful.

MacCunn takes this view:***

> Spinoza makes the pregnant remark that we do not know what Body is capable of. We may go a step farther and, following Aristotle, declare that we shall never know, till Body finds its true function as instrument of fully developed soul. For materialism consists, not in frankest recognition of matter, but in the assignment to it of a spurious supremacy or independence. There can be no materialism in utmost emphasis upon physical education so long as 'Body for the sake of Soul' is as it was with Plato, the presiding principle of educational action.

Aims.—The aims of physical education should be higher, therefore, than those usually given. So many specialists in this field are only interested in producing perspiration. The physiological aim is not enough. There should be in every department of physical education, the ideal and aim that will provide inspiration for the youth of America.

* Wells, H. G. *The Saturday Evening Post*, April 16, 1921, p. 17.
** Hall, G. Stanley. *Proceedings of the National Education Association*, 1908, p. 1015.
*** MacCunn, John, *The Making of Character*. The Macmillan Co., N. Y., 1900.

President Hall in speaking of the need for a leader who shall coördinate the mass of gymnastic material and give an ideal setting for it says:*

> The world now demands what this country has never had, a man . . . who shall catch the spirit of, and make due connections with, popular sports past and present, study both industry and education to compensate their debilitating effects, and be himself animated by a great ethical and humanistic hope and faith in a better future. Such a man . . . will be the savior to the bodies of men and will, like Jahn, feel his calling and work sacred, and his institution a temple in which every physical act will be for the sake of the soul.

We need to aim higher than health, than victorious teams, than big muscles, than profuse perspiration. Physical education may be so conducted as to set a standard of living that will surpass the average and the commonplace. There should be in such a scheme of things something of the healthier virtues of courage, endurance, strength, and also the natural attributes of play, such as imagination, joyousness, and pride. Physical education should never be satisfied with technique. It may well aim to afford an opportunity for individuals to act in situations that are physically wholesome, mentally stimulating and satisfying, and socially desirable. The juggling of the ring, the acrobatics of the stage, the cheap accomplishment anywhere must not be the standard.

Inspiration and organization for finer manhood and womanhood in all expressions of life cannot come from formal calisthenics and gymnastics, a mixture of dry hygiene and tooth brush sanitation. The work must have imagination, spirit, ideals. The play and games must not be emasculated but must be filled with the spirit of vigor, of victory, of power, of clean, fair, noble endeavor. The softness that tends to creep into sports under the petticoats of amateurism, the regimentation and exclusiveness that comes so often with classi-

* Hall, G. Stanley, *Adolescence*, p. 195. D. Appleton & Co., N. Y., 1911.

fication, must not be allowed. The athletic aristocracy of the school or college would have no place in the scheme of such physical education, and a wider and more equitable opportunity for athletics for all would be the aim (9). The fine, fit, prepared body and mind, healthy and essentially vigorous and courageous, ready and fit to do its task—this may be the goal for the youth of America.

We have been concerned up to this point with indicating the different systems with their defects. We have stated briefly the emphasis which modern physical education is beginning to place. It remains at this point to set forth in some detail a statement of the aim of physical education. It will be noted that the matter of instruction in hygiene is omitted, except as it may be incidental to the physical education. This is not because of non-appreciation of the value of hygiene but because for the purposes of this book it is important to think of physical education and health education as separate and distinct. They are very closely related, however, and in fact should be conducted by the same department. In a limited sense health education includes physical education; the latter can never wholly include the former.

The aim of physical education.—*Physical education should aim to provide an opportunity for the individual to act in situations that are physically wholesome, mentally stimulating and satisfying, and socially sound.* It may be noted that this aim is in substantial agreement with any acceptable aim of general education. It is obvious that general education would be more acceptable as a program of child nurture if greater emphasis were placed upon physical and social values. It is important to define the terms of the aim as stated above. Specifically, *physically wholesome* means:

1. Adequate provision for all that is involved in control of the environment in gymnasium, playground, and athletic field-air, dust, dirt, suits, showers, etc.

2. Adequate provision for all that is involved in the development of physical strength and vitality in accordance with the needs of daily life and also of the emergencies and crises of life (10). This provision includes remedial measures for individual cases. It must also provide "that margin of motor activity"* essential for health and desired physical development.

Specifically, *physically wholesome* does not mean:

1. The constant seeking of other values, however worthy, at the expense of the physical; for example, second grade children in twenty minute lesson doing pantomimic and expression work and engaging for two and one-half minutes only in activities that could be classed as having physiological results, *i.e.* increase in heart rate and blood pressure. This does not rule out the occasional and unusual sacrifice of physical values for the achievement of ends worth while and otherwise unobtainable. Football and other vigorous athletics may result in broken bones, and occasionally in death. Some of the moral values are not to be achieved in any other way.

2. Development of physical freaks—Marathon marvels or show window exhibitors.

3. The extreme forms of athletic participation as seen in boys' and girls' school athletics. Not infrequently, the boy in high school is "burned out" by excessive athletics.

Specifically, *mentally stimulating* and *satisfying* means:

1. Adequate provision for development of initiative, leadership, and followership.

2. Adequate provision for expression of racial instincts and desires, with recognition that nature is not infallible.

* Wood, Thomas D., *Ninth Year Book, Health and Education.* Part I. National Society for the Study of Education, p.82.

3. Adequate provision for satisfying states of affairs, *i. e.* a game in which the official is competent and fair gives a satisfying mental reaction.

Specifically, *mentally stimulating* and *satisfying* does not mean:

1. Mental gymnastics as evidenced in response-command exercises that do not get their sanction from the principle of leadership and followership.
2. Provision for mental activity that is in any way annoying.

Specifically, *socially sound* means:

1. Adequate provision for development of social and moral values in which you believe and for which you are willing to work. Such provision may be in essential agreement with public opinion or educational opinion.

It may not be in agreement at all, but can be defended, by historical fact of civilization or biology, *e.g.* the nature of man and the influence of civilization; by present tendencies and movements in society, *e.g.* the growing liberalism in all forms of organized society; or by probable outcome of any opposing and antagonistic principle, *e.g.* the failure of posture drills, disciplinary drills, etc. Such provision must make for good citizenship, and whether that concept is founded upon a communal theory of government, or a super-state theory, or the theory of a democracy, these virtues suggested by Bobbitt (11) must reside in all:

a. Service to society now and to the unborn of the coming generations.
b. Fair dealing. The "give and take" principle.
c. Truthfulness, honesty.

d. Loyalty and obedience to authority; playing the game according to the rules.

e. Modesty, humility as contrasted with arrogance. Does not mean piety.

f. Submission to group opinion, coöperation.

g. Courtesy, thoughtfulness for others.

h. *Self*-restraint, *self*-control, *self*-discipline.

i. Gentleness, mercy.

The import of this aim will be brought out in subsequent chapters.

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CHAPTER TWO

Guiding Principles in the Organization and Administration of the Work of Physical Education

Familiar aims in physical education.—It is proposed at the outset to discuss critically the guiding principles often presented to-day as a basis for formulation of physical education programs. The division of the work of physical education into four fields is not so common to-day as formerly but the procedure is employed frequently enough to warrant a study of the basis as represented under the headings—corrective, educational, hygienic, and recreative.

These aims, comprehending the entire program, are entirely unacceptable as set forth in most systems of physical education.

1. Corrective. The exercises in this group aim to secure good posture during the lessons and to correct bad posture in the child.

2. Educational. This aim has been defined as follows: "We seek certain exercsies because *we* want the children to learn certain exercises themselves, and secondly, we practice certain gymnastics for the purpose of training in form, precision, alertness, control, isolation, coördination, and inhibition."

3. Hygienic. The exercises in this group are for the purpose of stimulating the systems of the body, the heart, lungs, liver, intestines, etc. It seeks to get exercise in quantity and free perspiration. It aims at health ends.

4. Recreative. Under this heading, activities that give pleasure and fun are introduced. Games and dances are types.

Critical study of the above aims.—In reading over the above aims it seems like the most elementary and simple procedure to ask two questions:

1. What characteristics or elements must an exercise have in order to be (a) corrective; (b) educational; (c) hygienic; or (d) recreative?

2. In physical education, what activities, old or new, accepted or proposed, will satisfy in letter and spirit the above characteristics or elements?

But when the questions are answered, the result is profound in its emphasis upon the selection of material that will satisfy the answers secured.

Consideration of corrective aim.—In the first place, what characteristics must an exercise or procedure in physical education have in order to be corrective of bad posture? It may be stated that it is the opinion of medical gymnasts and many physical educators experienced in physical therapeutics, that for corrective results, an exercise must—

1. Be repeated frequently.
2. Be sustained and slow rather than abrupt.
3. Be sufficiently powerful to (a) restore to normal, or (b) maintain at normal, or (c) tend to approach normal.
4. Awaken interest on the part of the subject.
5. Be an exact prescription for a definitely diagnosed defect or deformity. A "shot gun" exercise cannot be accepted.

When these answers are considered, the logical conclusion follows that the only corrective work of any value or significance is individual* and not class work. The exercise

* Drew, Lillian, *Individual Gymnastics*, Lea and Febiger, Philadelphia, 1922.

must be prescribed following an examination, and the progress of the case must be noted and corrections in procedure made when necessary. A woman worker of over twenty years experience in this field states that three-fourths of the problem is arousing in the child the desire to be straight (which is best accomplished in individual cases); after that is done, the exercises are only a reinforcing and sustaining remedy. They are necessary but alone they are worthless.

It must be clear therefore that no organization of physical education will seek corrective effects in general class work. Provision must be made for individual corrective gymnastics. The need for this special corrective work is illustrated by the records in a large city university of students who had graduated from the public schools of the same city. During their entire time in the schools they had been given exercises for posture. It will be noted that the percentage of cases needing attention is given and the percentage that represents city pupils. When one remembers that only the most favorably situated families send their children to the university, one will appreciate the great number turned out from the public schools in need of corrective gymnastics of the individual kind.

Statistics of *Freshmen Women—Corrective Gymnastics.* Forty-one per cent of freshmen women are recommended for corrective gymnastics; 79 per cent of these are resident—21 per cent are non-resident. (82 per cent of the entire class are resident.)

Classification According to how much Work is *Needed.*

A—Questionable..... 5 per cent—of these 67 per cent are resident
B—Mild.....33 per cent—of these 73 per cent are resident
C—Medium.....33 per cent—of these 79 per cent are resident
D—Severe.....25 per cent—of these 93 per cent are resident
E—Very severe..... 4 per cent—of these 100 per cent are resident

10 per cent are feet cases.
90 per cent are cases of lateral curvature and posture.

Statistics of *Sophomore Women—Corrective Gymnastics.* Forty-three per cent of sophomore girls are recommended for corrective gymnastics;

87 per cent of these are resident—13 per cent are non-resident. (88 per cent of the entire sophomore class are resident.)

A—Questionable.....17 per cent—of these 88 per cent are resident
B—Mild.....35 per cent—of these 88 per cent are resident
C—Medium.....33 per cent—of these 87 per cent are resident
D—Severe.....13 per cent—of these 100 per cent are resident
E—Very Severe..... 2 per cent—of these 100 per cent are resident

2 per cent are feet cases.
98 per cent are lateral curvature and posture.

Dr. Thomas D. Wood estimates the number of children in the schools in need of corrective attention to be seventy-five per cent. The evidence everywhere indicates the complete failure of the corrective aim as applied in practice.

Consideration of the educational aim.—What characteristics or elements must an exercise have in order to be educational? This involves in the very nature of the case a definition of education. If education is preparation for life, if education is training for efficient citizenship, if education is more than book knowledge or traditional practices that are justified only by their age, if education is opportunity for the child to develop and unfold to its greatest extent and under the most favorable environment,—in short, if education is considered as a process related to life today and not life a century ago or fifty years hence, we will rest content with whatever expression may be made so long as the spirit of the definition breathes its application to life, to real life in the world today.

Attempting to answer the question, therefore, we find that in order to be educational an exercise must—

1. Have an aim
2. Be interesting and have meaning
3. Be expressive of an idea, thought, or feeling
4. Function in the life of the individual

a. Either as a practical, utilitarian motor procedure making him more efficient, or

b. As an aesthetic acquisition, capable of giving pleasure to self or others, or

c. As training in social or moral qualities of good citizenship.

These answers indicate how impoverished has been the vision of those seeking "educational aims," who saw their realization in the ability to stretch the left arm sideward and the right arm upward on word of command from a teacher. Physical education is educative according to the view point and emphasis. It has wonderful latent possibilities. It stands at a point in the history of man when its contribution to practical and effective citizenship is most needed and can with greatest prospects be given.

These questions rule out at once that mass of aimless, uninteresting, inexpressive, and functionless type of material as represented by the gymnastics of the Swedes or Germans or that of certain mongrel systems.

When the second question is asked, "What types of activity will satisfy the above characteristics?" the answer would seem to present the following:

1. Games, sports, and athletics
2. Dancing—folk, characteristic, and natural (cf. Chapter III)
3. Exercises on apparatus. The usual ones need revision to be satisfactory
4. Natural gymnastics (cf. Chapter III)
5. Club and camp crafts

There is a place for drill in physical education. The logical place for it is in the practice of the parts of activities which are interesting and vital to the child. A child has no inherent interest in the "yard e" position nor in the "fall out" nor in the "lunge," but may be very much interested in practicing the technique of certain games, dances, swimming, and other natural and racial activities.

A comparison of the characteristics of educational activities in physical education will show how rich the available material is and how important for morale physical education becomes in the school curriculum. The president of one of our colleges recently remarked, "The director of physical education has a greater opportunity for character training of our students than any other officer of our college." Here then is complete justification for the insistence that our program function in the life of boys and girls and for their sake and for their country's sake that it present a direction in aim and effort that seeks fundamental, social, and moral qualities.

Consideration of the hygienic aim.—What characteristics must an exercise have in order to be hygienic? Certain misconceptions prevalent in the popular mind must be corrected. We understand that hygienic means productive of health. Furthermore, the narrow, partial, and incomplete appraisement of the nature of man and hence of factors in his health must be revised. It should not be necessary to-day to say that man is a psycho-physical unit. Mind and body are one. It is impossible in any rational procedure to consider one and neglect the other. Therefore, it is amateurish in the extreme to talk of health effects from muscular activity when the entire emotional and mental experience of the individual is going through unwholesome phases. The boy or girl who bends the trunk sideward for the hygienic purpose of alternately squeezing or relaxing the liver and who throughout the activity is filled with the quite common gymnasium reaction expressed in these words, "I hate gymnasium work," can hardly be said to obtain hygienic effects on his nervous system. The difficulty in this instance as in others enumerated is that the child has been dissected and the muscles, or the liver, or the sweat glands have been stimu-

lated to activity and all the time the child, as a psychophysical unit, has been ignored.

We shall refuse therefore to concede as hygienic any exercise which does not in some degree produce all of the following:

1. Wholesome activity of the circulatory system, showing in increased heart rate or blood pressure.

2. Wholesome activity of the respiratory system coming as a result of increased body need for elimination of carbon dioxide and supply of oxygen. This activity is to be automatic and to be initiated, directed, and controlled, not by the teacher, but by the respiratory center in the medulla, which exists for this purpose. This rules out at once respiratory gymnastics as commonly used.

3. Wholesome activity of the excretory system. This characteristic would be evidenced in increased perspiration and increased elimination of bodily waste.

4. Wholesome activity of the muscular system.

5. Wholesome activity of the nervous system. This would be expressed in evidences of enjoyment, pleasure, and happiness. The nervous system expresses hygienic states if joy is predominant. Depression, fear, distaste are unwholesome in their effect upon the nervous system. In this respect therefore that activity which gives joy is hygienic.

Notice should be taken of the use of the word wholesome in the five paragraphs above. We mean to convey here all that is implied in this word, and to condemn in general as unhygienic, feats of strength, marathon races, prolonged endurance athletic contests. In any case all such activities must be judged by whether the effects are wholesome.

With the above characteristics in mind, it will be found that the following activities will be satisfying to the demands made:

1. Games, sports, and athletics. Manifestly not all games or athletic sports can be accepted for all. Boys' basketball for girls, marathon races for high school pupils, endurance contests for children, would come under the ban. In general, though, games of all kinds, under proper supervision, will give wholesome activity for the child,—for the child considered as a psycho-physical unit and not considered as a set of muscles covering a liver and intestines.

2. Dancing—folk, characteristic, and natural.

3. Natural gymnastics used for drill purposes in which the individual finds joy and satisfaction in practicing a technique that will improve the performance of a real game which interests him.

4. Apparatus. For boys and men and for some girls, exercises on apparatus will satisfy the above characteristics. This is the least valuable and useful of the four groups suggested.

Consideration of the recreative aim.—Desirable motor activities have usually been offered when the recreative aim has been considered, and yet it is important to ask what characteristics physical activity must possess in order to be recreative, so that needs in this field may be served appropriately at all times.

It would seem that the following characteristics are inherent in recreational physical activity:

1. Interest. The activities must be well known enough to be enjoyed, but they must not be so well known as to become monotonous. Variety must be offered and yet routine respected enough to give the pleasures that come with the old and familiar. These are vital elements of interest.

2. Adaptability. The activity must be gentle or vigorous according to the requirements of the hour. The group is to be served according to its needs.

3. Objectivity. The individual to recreate completely must forget self and live in the objective world of the imagination. Action must be directed outward in expressive forms in which self is not thought of and consciousness of action is absent entirely.

With the above characteristics in mind, it would seem that the following activities would be completely satisfying:

1. Games. In this group, new and unknown games or games involving great skill to learn, would not be considered. The games could be quiet or fairly vigorous, but they must be well-known and liked or at least so simple to learn that their technique could be mastered quickly. Stunt games of various kinds would be appropriate.

2. Athletic sports. Golf, tennis, swimming, and horseback riding for those who know the technique of the sport and enjoy its situations indicate what is recreative in this field. It is important to emphasize that for recreation purposes the sport must be familiar and the skill in it sufficient to produce pleasure.

3. Dancing—folk dances, especially types such as the English Country Dances, social dancing, and at times natural dancing. The primary element here that makes for recreation is the rhythm, expressed in movement and music.

4. Apparatus. Certain individuals get real recreation in performing stunts and feats on apparatus. The giant swing, the fly away, the dislocate, and other acrobatic acts may be accepted for a few. They are not worth the effort required to accomplish their performance. They offer a limited appeal.

5. Natural gymnastics. Figure marching and exercises in mass groups may at times of exhibition be recreative, but usually the strain of "making a

mistake" is so great that these activities are rarely to be accepted as satisfactory recreation for school children. Parades on special days can be made worth while. Even for adults, parades, either with or without special costume, give real recreational results. Skipping, balance running, leaping, climbing, and jumping may be considered recreative. Surely a great deal of the material given by Pearl and Brown * may be considered as recreative.

Present methods of organization and administration in physical education as compared with other fields.—In city school systems, the main part of the work consists in gymnastic lessons arranged in progression that is based on balance, difficulty in coördination, or strength requirement. The lessons provide, in the main, movements of the arms, legs, and trunk, and some marching; a game or folk dance may be added. The exercises may be from the Swedish system without hand apparatus or may follow the German type and involve wand or dumb-bell. The exercises are selected with a view to producing correct posture, muscular strength, and coördination (1). The pupils are "put through" these exercises and no scientific effort is made to determine whether the work accomplished what is predicated in the theory; too little attention is given to see if the pupils are interested in the work. No well directed effort is made to instruct the pupil; the effort is to exercise him.

Now in this connection it is important to ask how such a method compares with the newer methods in general education and the practice in other fields of life.

1. Compared with newer educational methods. In general education procedure, efforts are centered definitely in examining and grading pupils not in an arbitrary way, but in a scientific way. Mental tests are worked out that

* Pearl and Brown. *Health by Stunts.* The Macmillan Company, N. Y., 1919.

provide by means of scales a method for measuring ability in arithmetic, language, writing. The intelligence tests in use are those of Binet-Simon, and the Stanford Revision of the Binet-Simon. For college students the Thorndike tests developed for the army are in wide use.

In short in dealing with subjects peculiarly mental in nature, Trabue's (2), Thorndike's (3), and Hillegas' (4) scales determine and place the pupil quite accurately.

Frequently in physical education work of the formal kind, grade and high school pupils exercise in the same class. There is practically nothing in physical education that provides training for the "physical defective" on the basis of scientific measurement. There is greatly needed some method for determining scientific classification regarding the motor development of the pupil, in which motor ability and not muscle size is measured. A rating test that would give the motor quotient (M.Q.) has possibilities nearly as valuable for education as the intelligence quotient (I.Q.). The old efforts of anthropometry which measured the size of the biceps, chest, and waist, told nothing regarding the ability of the pupil to coördinate his muscles in an emergency, or to use the muscles for effective organic action in the common acts of life, such as standing, sitting, walking, running.

2. The methods in use in physical education have nothing in common with the world of business. The well organized and administered business seeks to carry on its activities after careful—

a. Determination of the demand for its goods and supply in relation to it. In some cases, definite and careful effort is made to increase the demand.

b. Determination of the capacity of the market to use the particular goods sent into that market. It would be an ill-fated business that sent fur-lined coats to the natives of the Sandwich Islands without

determining whether or not the natives could or would use the goods.

c. Determination of needs of people using the line of goods produced or marketed by the business. Endeavor to supply the needs.

Now physical education in the formal systems makes no determination of the pupil's needs, ability to use, or demand for, the activities of the physical educator. The statement of needs so often made is an assumption. The lack of exercise, the urgency for muscular activity does not mean a need for formal arm, leg, and trunk exercises that are produced and taught without any reference to the ability of boys and girls to use them in life, to be interested in them, and to benefit from their use.

If physical education attempts to be modern and progressive, it must begin to seek standards for motor activity and to present its program with reference to the child's psycho-physical needs. Moreover the wants of the nation are so great that a new organization of physical education is imperative. The results of the draft and the close of the war have presented two problems of paramount importance to physical educators:

1. The need for promotion and conservation of physical vigor.

2. The need for development of fine qualities of citizenship.

Need for physical vigor and good citizenship.—The Provost Marshal General reported in January, 1918, on the rejections of men called in the Selective Service Draft for the National Army, as follows:

Total called	3,082,945
Total examined by local boards	2,510,706
Total rejected by local boards for physical reasons	730,756
Percentage rejected of those examined	29.11

To this percentage of rejections by the local boards must be added the rejections by the Medical Corps at the cantonments. The Medical Corps rejected from two to eleven per cent of those certified. The total rejections therefore must be somewhere between 30.53 and 36.80 per cent. In the main the chief causes of rejections were remediable and preventable by a little care and by adequate and wise physical education.

The loss in physical vigor in the United States, through lack of adequate provision for health care and physical training is incalculable.* There is tremendous need today for better training for citizenship. The school is the logical place for the training of leaders and followers of the right kind and there should be provided in the modern organization of physical education a chance for the boys and girls to know the qualities to look for in leaders, to exercise themselves in choosing leaders, and to practice in following leaders.

Good citizenship does not suddenly descend upon one at the age of twenty-one. It represents a totality of response made up of favorable and desirable reactions, many times repeated, in situations of less importance. Loyalty to a team may very well be the beginning of loyalty to the nation and loyalty to a team in the face of continued defeats is provocative of something like the spirit that worked in the hearts of those at Valley Forge and in the Wilderness.

Physical education in its clubs and teams, its Scout troops, and other outdoor organizations must seek these larger aims. The material to be used is that of games and sports and natural activities. The very clear way in which games and sports are important in developing physical vigor on the one hand and certain desirable social values on the other is well expressed by Hetherington and Ehler (5).

* Williams, Jesse Feiring "The Conservation of the Nation's Most Valuable Resources." *Educational Review.* Vol. 56, No. 4, Nov., 1918.

With this fundamental viewpoint in mind, it would seem that the rational approach in the organization and administration of physical education should not be the formal and traditional one.

Organization should consider the nature of the elements organized.—In carrying out the work for physical education, in selecting the types of work that will be of most value and have the greatest appeal, the physical nature and instinctive reactions of the individual must be considered. The teacher of physical education must know the physical, psychic, and social characteristics of children, the time and manner of development. That critical period of adolescence must be studied carefully and the essential changes noted. This study of the characteristics of boys and girls requires keen analysis of these characteristics in order to decide intelligently what achievements are valuable. Then the teacher is in a position to determine what material should be used to secure the ends that have been selected as worth while in the light of an understanding of the nature of boys and girls at different stages of development. Any organization of material that proceeds without this fundamental approach in the study of child nature is unscientific. There is abundant material of a scientific kind which may serve for the beginning of this study. Fiske, Thorndike, Lee, Tyler, Baldwin, Hall, Johnson, McDougal, and Trotter will give authoritative statements. (6). This study will reveal the important fact that children are not abbreviated adults. Moreover the psychic factors will be recognized. It is important to state that the child as a personality seeking to adjust to a complex world of adults is the guide for the organization and administration of the program of physical education.

In seeking to understand the needs of the child in all aspects of its development and to provide an opportunity for the child to express its instinctive guides and urges,

there should be not less but more appreciation of the need of the child for an active physical life.

Organization should encompass the physical needs of the child, as shown in its growth and development.—It is not sufficient to know the average chest girth of 20,000 children of a certain age and then devise an exercise that will enlarge a child's chest to the average for his age. Any such method is not only fruitless of achievement of physical vigor but indeed subversive of health and physical power. It is not complimentary to all those who have been working in this field to say that in the main such has been the method. Exercise for the arms, chest, back, and legs! Exercises for the circulatory and respiratory systems!

The point is emphasized here that the physical needs of the child must be considered in the light of human evolution; that the sort of things man has done in becoming what he is remains the best guide as to what will promote and conserve his physical vigor. The physical educator should know the measurements of children in different age groups, he should be familiar with standards of favorable types, but more than that he must understand the essential biologic needs of children and adults. The average lung capacity of individuals of a certain height will be helpful in telling if an individual is sub- or super-normal in chest mobility, but more significant is it to understand the evolutionary basis for the appearance and functioning of the vital systems of the body. The use of the fundamental muscles and the proper selection of activities to provide for fundamental rather than accessory muscular action is paramount. How children grow, the tendencies at different periods, accelerations and retardations, pubescent changes—these are of importance; but as a background for these lines and colors, must be the picture of the child in evolution. This is significant because of

the necessity for physical, as indeed for all education, to adjust its efforts in harmony with the great force of nature.

Proper consideration of the needs of the child requires that boys and girls be separated for their physical education at the beginning of pubertal changes and onset of adolescence. This separation in most places will occur at the end of the fourth grade. In some schools they may work together in the gymnasium through the sixth grade but never after that. At times separation may be advised at the end of the fifth grade.

Children should be grouped in classes according to their physiological age and group motives and guides.—Children of widely separated grades should not be brought into the same class. The physiological age of the children is to be considered and so far as possible should control in the selection of classes. Practically in school systems as constituted it is necessary to have the physical educator proceed according to class organization. This is not fatal and provides, with careful administration, a satisfactory class organization.

The gymnasium classes should be broken up into groups. The groups should be natural in formation and conform to group motives, group performance, and age (physiological) (7). The group plan requires a different type of work and involves the free use of leaders from the groups. This necessity makes for success in achieving the desirable social values and training that physical education can give. The use of the Boy Scout and the Girl Scout organization in the school is helpful in this connection.

A new spirit.—The day has passed when any department could feel that it was meeting its problems by providing three ten-minute lessons a week in formal exercises. The recent state-wide laws are reflecting the awakened interest in and demand for games, scout activities, recreational clubs, camping, development of leadership, and group training

in activities that avoid the Prussian virtues on the one hand and mob emotionalism and action on the other. Gymnastics will remain with us, as they are needed, but revised and fashioned in new forms.

The health values of the program are prominent in the foreground and rightly so, but they are not sustained by the old fallacies of the Swedes and Germans, which at one time had the sanction that historically is given to the Medes and Persians. The health values are based upon a study of the whole nature of the child and not upon an anatomical dissection of its musculature alone.

The profession is awakening to the strategic position in which the teacher and director of physical education is placed with reference to guidance in the matter of moral problems. The import of this is not to be neglected.

The significance of physical education in the lives of boys and girls in school is indicated quite clearly by Dutton and Snedden (8).

> Physical education broadly includes all of the means which contribute to physical well-being, comprising nurture and a favorable environment for growth, exercise, and work, as well as corrective and curative activities. The attainment of the ends of physical education implies not only control of the ends of physical environment of the child, but the deliberate formation of habits, the imparting of knowledge of hygiene, and the stimulation of the better ideals of physical efficiency. . . .
>
> The relative importance of physical education in this broad sense is such that it should undoubtedly be given first place in a completely integrated scheme of social economy,—what is called mental discipline, and the development of the scientific attitude, is ultimately common to all, and is not in any sense the exclusive possession of cultural education. Hence, in so far as the administration of public schools takes account of physical education, it should attach to it more importance than to any other division as far as attitude and appreciation are concerned.

Department schedules.—The administrator of a department of physical education has the problem of schedule making for the activities for which he is responsible. He should have the ready coöperation of the school principal, deans, and general faculties. The modern administrator

will see in the field of physical education, not only opportunities to guide and control physical exercises, sports, and games, but also the closely related field of character training and personal health problems. His schedule will involve appreciation of more than is printed in the school announcement. Elsewhere has been presented the details of organization of material; it would seem important to state here in connection with the general organization of the department the point of view to be held in making schedules. This point of view includes an appreciation of the biologic requirements of children.

From observation of activities and from estimated records and schedules Hetherington* presents the following table showing the distribution of activities by age periods:

Distribution of Activities by age Periods

Age	Total average waking hours	Big muscle	Manual	Linguistic	Automatic	Doing nothing
0–1	.....	....	....	....	....	...
1	9 − ½	....	....	....	....	...
2	10 − ½	....	....	....	....	...
3	11 − ½	....	2	....	2	? −
4	12	....	2	....	2 − ¼	?
5	12 − ½	4 − ½	2 − ¼	2 − ½	2 − ½	?
6	12 − ¾	4 − ¾	2 − ¾	2 − ½	2 − ½	?
7	13	5	3 − ½	2+	2 − ¼	?
8	13 − ½	5 − ½	3 − ¼	2 − ¼	2	? +
9	13 − ¾	6	3 − ¾	2+	2	?
10	14 −	6	3 − ½	2 − ¼	2+	?
11	14 −	5 − ⅔	3 − ½	2 − ½	2	?
12	14 − +	5	4	3	2	?
13	14 − ½ +	4 − ½	4	3 − ¼	2 − ¼	?
14	15	4+	4 − ½	3 − ¾	2 − ½	? +
15	15 − ½	4 −	4 − ¾	4	2 − ¾	?
16	15 − ¾	3 − ½	4 − ¾	4 − ½	2 − ¾	?
17	16 −	3+	4 − ¾	4 − ¾	3 −	?
18	16	2 − ½	5 − ½	5 −	3	?
19	16	2	5 − ¾	5	3	?
20	16	2	5 − ½	5 − ½	3	?

* Hetherington, Clark. *American Physical Education Review.* May, 1917, p. 251.

This schedule by Hetherington would indicate that physical education has been assigned entirely too little time in school programs. By "big muscle activities" Hetherington means "spontaneous and general locomotion: locomotion with toy machines, animals, etc; spontaneous or playful gymnastics; games; dancing; aquatics."

In an effort to represent the necessary amount of time in the several activities "essential at each age for development," the following chart (Fig. 1) is reproduced.*

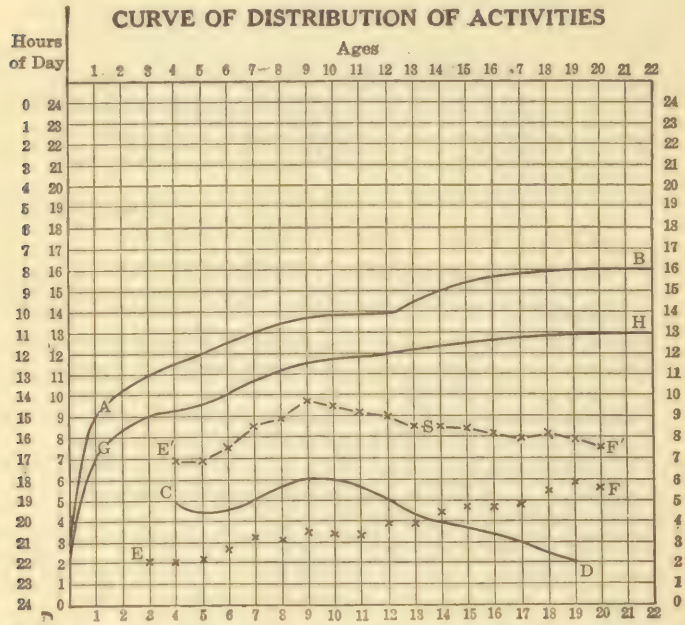

Fig. 1. Curve A B in relation to the base line represents the normal hours awake at each age period. The space between A B and G H represents the time devoted to routine automatic adjustment, leaving the time indicated below G H for activity of educational significance. Curve C D in relation to the base line gives the amount of time necessary for big muscle activities at each age period. Curve E F in relation to the base line gives the amount of time indicated by these observations for manual activities. Curve E′ F′ represents curve E F added to curve C D, thus giving the time devoted to both big muscle and manual activities. The *space* between E′ F′ and G H gives the time for special linguistic activities.

* Hetherington, Clark. *American Physical Education Review.* May, 1917, p. 251.

The importance of this study for education is the consideration to be given to the distribution of studies and big muscle and manual activities in the school curriculum. It is to be pointed out therefore, that the method of assigning subjects of study for the child without providing for the manual and big muscle activities is unscientific and dangerous and from a modern viewpoint disastrous. It is enough to say that the big muscle and manual activities cannot be properly cared for by assigning them to fag ends of the curriculum.

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CHAPTER THREE

Objectives, Content, and Material Activities of the Gymnasium and Playground

Objectives.—The work on the playground and in the gymnasium should have a broader appeal and aim at more comprehensive results than the calisthenic drills of the classroom. The usual calisthenics are an artificial means of providing activity; they have no relation to the normal, natural forms of play. On the other hand the program on the playground should provide the fullest opportunity for expression of self in wholesome play, consciously directed by teachers who will guide, check, stimulate, and admonish as the case warrants. The activities of the gymnasium should be as nearly like that of the playground as possible. The type of activities should be natural, and in this one aims to achieve a motor education that shall function in the life of the individual.* There should be sought therefore an adequate motor education, an adequate self-expression of personality, from which there will naturally result health if the work has been hygienic, and development of character and a desirable shaping of personality, if the guidance has been awake to moral and social values.

The objectives, therefore, are motor education that shall function in promoting physical vigor, and an awakening and expression of mental, moral, and social feel-

* Fauver, Edwin. *American Physical Education Review.* March, 1919, p. 220.

ings and states that shall lead toward fine qualities of citizenship.

Content.—In getting away from the more formal aims of traditional gymnastics, we are seeking to establish a practice that will serve to make boys and girls better able to live the life of free citizens in a democracy. Professor Rapeer in a report (1) on the minimal essentials of physical education offers the following as types that would seem to be satisfactory:

1. Free and supervised play, including dancing
2. Free and supervised athletics
3. Boy Scouts, Camp Fire Girls, and other similar activities
4. Wholesome motor activity in connection with school and other work activities of many kinds
5. Handicrafts and other similar avocations
6. Formal physical training or gymnastics in the narrow sense
7. Orthopedic, therapeutic, or medical gymnastics
8. School excursions, tramps, and hikes
9. School dramatics, posturing, etc.

It would seem necessary to provide for the sixth item because at times it is impossible to carry out the natural programs due to lack of buildings, space, funds, or teachers. It should be noted, however, that frequently the equipment will permit a more rational program than is given by some teachers.

The above suggested content has been elaborated in the report (1) and is worth detailed study. It presents games for the first eight grades, amount of time to be devoted to dancing, character of the formal exercises, and other interesting and valuable discussion. Many suggestions are taken from Stecher (2) and the assignment of games to grades is in agreement mainly with the order given in the Philadelphia schools.

Modifiers of content.—From what has been stated in the preceding pages, and from the very definite tendency toward play and athletics as shown everywhere today, it

may be noted that there is no necessity for any program of formal calisthenics and gymnastics. It must be appreciated, however, that all that may be desirable in a rational physical education program is at present not always possible due to handicaps that at times are financial, at times physical, and at times human. There is a place, a justified place, in physical education for drill in the elements and fundamentals of motor movements that function in life; at present, however, the great majority of school systems are doing more in formal gymnastics than is justified by any necessity of the situation and are not fully awake to the reasonableness and practical value of a program based upon the child's interests and basic and instinctive desires.

It is not an unreasonable standard to hold that the elementary school should secure a program in physical education based upon plays, games, club activities, dancing, and whenever possible, swimming.

Content of curriculum for elementary schools.—The physical activities of the kindergarten should be carried over in the first grade of the elementary school. The Gary school plan for physical education is based upon a work-study-play program. The play part is an essential leg in the educational tripod at Gary. An excellent program in physical education is given in the published curriculum (3) of the Speyer School. The diagram in figure 2 gives the kind and distribution of material desirable in the first six grades.

Content of curriculum for high schools.—1. The best type of physical education is to be seen in some of the private schools. The Andover plan (4) in use at the Andover School, Andover, N. H., is excellent.

2. The Horace Mann School for Boys, New York City, provides a unique and in many ways an ideal scheme. Games and athletics comprise the entire program of motor

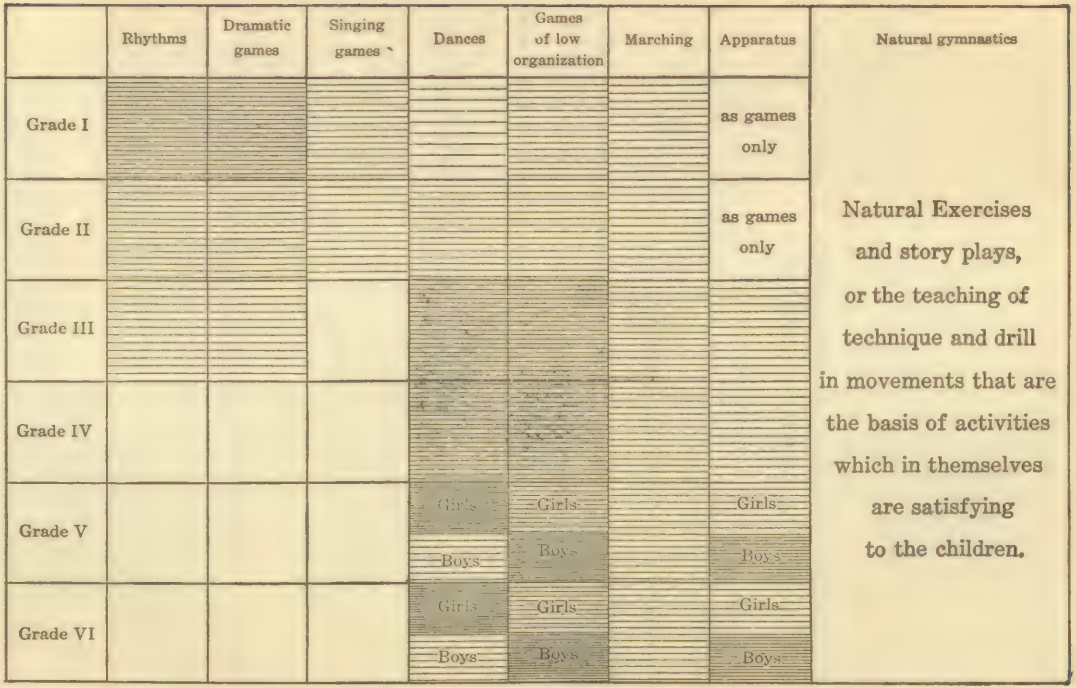

Fig. 2. The above horizontal lining indicates the appearance and disappearance of, and the relative emphasis upon, the different activities of physical education in the first six grades.

education. The period comes in the middle of the day. Study periods are conducted in the late afternoon after the game period.

3. The Wardlaw School, Plainfield, N. J., has an excellent program for physical education.

4. The Horace Mann High School for Girls, New York City, offers an unusually good program for a city school with limited play space. The students in the senior high school may elect one of three courses in their required work of two periods a week, as follows:

a. Natural dancing—two periods
b. Gymnastics, folk dancing, and swimming—two periods
c. Athletics—two afternoons

A large majority choose the athletics which consists of:

Fall—Tennis
Field hockey
(1) Beginners squad
(2) Varsity squad
Two interscholastic games
Winter—Basketball
(1) Interclass teams playing eleven games
(2) Varsity team playing ten interscholastic games
Spring—Swimming
(1) Swimming meets
Tennis
(1) Tennis tournaments
Track
(1) Track meet

In large city high schools the programs are limited by the difficulties inherent in large groups without adequate play space.

5. An illustration of minimum essentials in the high school field would be—

a. Swimming for all.
b. Games and athletics (competitive) for all.

The girls should not play boys' games. Dr. Fauver suggests the following for both boys and girls (5):

For Boys	*For Girls*
Baseball	Indoor baseball
Basketball	Basketball (girls' rules)
Field hockey	Field hockey
Ice hockey	Handball
Cricket	Swimming and diving
La Crosse	Fifty yard dash
Soccer	Hurdle races
Football	Tennis
Handball	Volley ball
Volley ball	Center ball
Center ball	Golf
Boxing	Bowling
Track and field athletics	Dodge ball
Squash	
Tennis	
Bowling	
Swimming	

The question of what physical activities are suited to and may be beneficially used by the girls is variously answered. Many factors should be considered: the structure of woman's body, its strength and endurance, the nature of her development, and the type of activity best suited to her needs. Some leaders in physical education advocate a free participation by women in activities pursued mainly by men; others markedly limit the range of sports for women. The following list from *Healthful Schools* (6) is suggestive:

For Mature Girls	*For Immature Girls*
Condemned—	Condemned—
Broad jump	Pole vaulting
High jump (in competition)	Running more than 100 yards
Pole vaulting	Weight throwing
Doubtful—	Doubtful—
High jump	Basketball
Running more than 100 yards (in competition)	Field hockey
Weight throwing	Safe—
	Archery
	Ball throwing

Safe—
- Archery
- Ball throwing
- Basketball (women's rules)
- Climbing
- Coasting
- Dancing
- Field hockey
- Golf
- Horseback riding (cross and side saddle)
- Indoor baseball
- Low hurdles (not in competition)
- Paddling
- Rowing
- Running (not in competition)
- Skating
- Skiing
- Snow-shoeing
- Swimming
- Tennis
- Walking

Especially beneficial and suitable
- Dancing
- Paddling
- Rowing
- Running
- Swimming
- Walking

Broad and high jump (not in competition)
Climbing
Dancing
Horseback riding (cross saddle)
Low hurdles
Paddling
Rowing
Running (not in intense competition)
Skating
Swimming
Tennis
Walking

Especially beneficial and suitable.
- Climbing
- Dancing
- Jumping (in moderation)
- Running (in moderation)
- Skating
- Swimming
- Walking—best loved, most commonly practiced, and with greatest primitive appeal
- Dancing— (greatest unanimity of opinion in this answer)

The criticism to be made of the above list of games and sport activities for girls is the tendency to rule out the games and conditions which are most valuable in developing the type of response which the vigorous fighting games call forth in boys. "The modern girl needs a greater opportunity to share in situations that come in games and that require self-sacrifice, courage, fair play, and persistence." *

c. Dancing for girls.

d. Dancing for boys.

* Williams, Jesse Feiring. "Values of Camping for Girls." *Teachers College Record.* XXI: 1. January, 1920.

e. Club organizations carrying on the activities of the groups into picnics, hikes, camping parties, etc., and continuing as an organization for the alumni of the school.

f. Exercises in the gymnasium for perfecting skill in dancing, games, and swimming.

g. Tumbling, boxing, wrestling, and apparatus (selected) for boys.

h. Marching using as a basis U. S. Military drill regulations.

i. Corrective gymnastics for special cases requiring special exercises.

Interschool athletics for girls.—The traditional attitude toward girls' participation in the activities of the gymnasium, pool, and athletic field has been one of opposition. The Victorian type of girl with a well developed headache and a poorly developed body has until recently been the standard for women. A modern liberalism has brought to women greater freedom in politics, in business, in industry, and in education, so that in schools of today the girl shares with her brother the program in the field, the court, and the pool.

It has been variously stated and with various reasons that women should not engage in athletic sports. Probably all the objections that have been presented at different times apply with full force when we mean athletic sports with men's standards. It is no mistake to permit the girl to play basketball, baseball, hockey, soccer, to swim, but to allow her to attempt to measure up to man's performance in these activities is the great error. There is need for development of suitable standards for women's athletics; but that does not mean that girls and women should not play games very much as boys do.

There are those who sanction girls' engaging in team games but who insist that they should not engage in inter-

scholastic or intercollegiate sport. The reasons given for this view are usually one or all of the following:

1. Girls are not good losers.
2. Girls do not behave well on street cars or railroad trains.
3. Girls are apt to play when not fit.
4. Girls are too sensitive and too delicately constituted nervously to stand the strain of interscholastic competition.
5. Girls would give too much attention to the games and neglect school work.

These arguments are so often used and the case so often made out against participation that it is worth while to inquire into the validity of the several contentions. The five points will be discussed in order.

1. If girls are not good losers, and it is granted that they show less evidence of sportsmanlike qualities than boys, how, it may be asked, are we to overcome this deficiency? Are we to assume that in original nature the girl lacks "fairness, loyalty, and honor"? There is no evidence for this at all. It is more probable that she is a poor loser because her training and education have been such that "good losing qualities" were not required. It may be remarked that one can only acquire the ability to lose gracefully and courteously by playing. There is no evidence to the contrary. It may be further noted that because woman is coming more and more into a larger share of the world's work and must work with men in all sorts of political, social, economic, and educational problems, it is of paramount importance that she develop ability to lose and ability to win without having the result incapacitate her for further endeavor.

2. If it is granted that girls behave in an unseemly manner on street cars and railroad trains, is it not fair to inquire how they may be taught to behave with regard

to accepted customs? Surely, not by keeping them off street cars and railroad trains! Manners in public cannot be taught in the classroom. They can be taught effectively and well in street cars and railroad trains. Proper supervision and direction, only, are needed.

3. Girls are physiologically so constituted that competitive sport would be harmful at the menstrual period. The physical education program must always conserve and never injure health. It is important to point out, however, that girls can be taught and should be taught to care for their health under even the most urgent situations. One teacher has secured entire support from her girls by helping them to see that it was unfair to the team to play when they were not physically fit. The possibilities for education in this regard are so rich that the chances for injury may be disregarded. In any case, the problem can be controlled by proper supervision. It may be noted that a larger squad is necessary for a girls' team; this is highly desirable for many reasons.

4. The answer to the fourth argument is that the girl has been deprived of opportunities to develop self-control by the mistaken views that she must be shielded, protected, and carefully guarded. It is more important to train a girl in self-reliance, to develop ability to meet difficult situations without expecting someone to step in and save the day. The sensitive girl is the girl who has never met opponents in games and sports. If sensitiveness as a quality in women is desired, the best procedure would be to eliminate her from competitive school sports. If a self-controlled, self-reliant woman is to be sought, then interscholastic and intercollegiate sport may be made of great assistance in this respect.

5. Girls would give relatively more attention to games and less attention to school work and it is believed that this redistribution would be salutary. Whether she would

give "too much" attention to games is a moot point, but it should be noted that girls are apt to be conscientious and would make a fairer distribution than boys do.

Contents of work for college students.

I. A woman's college.—Some colleges are not continuing their formal, lifeless, and uninteresting wand, dumb-bell, and Indian club exercises. The type of work at a western woman's college is suggestive:

A. Students may elect the type of work desired.
B. All the work is coördinated with the Greek games, a contest between freshmen and sophomores. These games are held in the spring term and include contests in dancing, athletics, lyrics, costuming, and chorus. The educational possibilities of physical education are indicated in this plan.
C. Courses:

FRESHMEN

1. Dancing
   a. Beginners—
      (a) Elementary instruction in folk dancing—Greek ideals and natural dancing.
   b. Advanced dancing—This class is for those whose preparatory work has included dancing—entered on examination of fundamental steps, technique, rhythm, expression. It meets with the sophomore beginning class.
2. Athletics.—One period of athletics and one period of swimming, or two periods of athletics.
   a. Elementary
   b. Advanced
      (1) Marching for organization, form, control, response to command.
      (2) Greek walk for use in Greek games.
      (3) Ten minutes of corrective exercises—posture, balance, and coördination related to Greek activities.
3. Games—for class and college
   Hockey, basketball, baseball
   Preparatory games in preparation
4. Athletics for Greek games
   Running—torch race
   Hurdling—for form
   Discus—form and placement
   Hoop rolling—speed
   Relay—speed

5. Athletics for track meet
   Running—relay
   dash
   Hurdling—speed
   High jump
   Out door discus
   Basketball throw
   Baseball throw

6. Swimming.—Jump in and swim the length of the pool. Incomplete in gymnasium until this is accomplished.

7. Optional sports conducted by girls under direction of coach or director.
   Hockey—varsity, class teams
   Basketball—varsity, class teams
   Baseball
   Track meet—interclass
   Swimming meet—interclass
   Tennis tournament—interclass

Two periods of organized game activities can be substituted for one of gymnastics. All girls in college must be on the floor for one gymnastic period a week. Substitution allowed also for two periods of corrective work. All cuts must be made up.

SOPHOMORE

1. Dancing
   a. Elementary—
   Folk—interpretive—Greek—and English country dances
   Examined and promoted at half term
   b. Advanced—
   Advanced folk dancing—interpretive—specialization for Greek games—Morris sword dances

2. Athletics
   Advanced—marching tactics
   Corrective exercises
   Sword and Morris dances
   Greek games specialization
   Basketball and baseball
   Same as freshman only perfection of technique

3. Swimming examination
   Twice the length of the pool. Physical education is incomplete until this is accomplished.

4. Optional courses
   - *a.* Advanced class in dancing—This is for the juniors and seniors who expect to enter regular Physical Education Department.
   - *b.* Class in Morris and country dancing for pageant to be given in May.
   - *c.* Classes in Greek dancing
   - *d.* Practice for Greek dancing
   - *e.* Regular practice hours for hockey, basketball, and baseball.

II. A man's college.—The effort in colleges and universities to meet the needs of the students and to avoid assuming that a set inelastic program will serve for all, is indeed commendable. Dr. Meylan at Columbia has worked out a system under which the entering first year students during the week of examination are classified in three groups, A, B, and C. Group A students are permitted to elect any of the athletic squads. Group B students register for one of the regular sections which provide in the fall and spring athletics, games, and swimming out of doors, and in the winter gymnastics, boxing, and wrestling in the gymnasium. Group C students register for a special section in which corrective, developmental, and body building work is used to bring these students up to a higher grade.

The examinations and classification are based upon the usual anthropometric and medical examination plus efficiency tests which measure the man's development, agility, endurance, and proficiency in certain selected movements.

The sophomore work has a two-fold purpose. "First, to offer further training to students who have not yet reached the standard of development, agility, and proficiency of Group A: second, to have every student learn at least two forms of outdoor exercise, and two forms of indoor exercise well enough to get above the novice class."

The type of work conducted at Columbia represents an advanced and modern program in the university field.

An excellent program is in operation at the University of Pennsylvania.

Types of material.—The range of material in physical education is so extensive and the amount of desirable work available so great that all cannot be presented here. It is intended, however, to indicate the organization of certain materials that are used such as tactics, natural gymnastics, club work and leadership training, formal drills, series on apparatus, athletic sports, games, and dances.

1. *Tactics.* Marching in school is frequently spoken of as tactics. There has developed a definite type of school tactics aimed at meeting school conditions. In some places there has grown up a special terminology. This situation is to be deplored and corrected. Marching is valuable for school organization in connection with fire drills, assembly, and dismissal; it is also valuable as gymnastic material. Its direct connection with plans for military service should be appreciated. While it is recognized that the evolutions of the military parade ground may not be suitable for the school room or gymnasium it is contended that the terminology should follow the United States Infantry drill regulations as far as possible. The use of any other terminology, whether German or Swedish, is indefensible in the United States of America.

2. *Natural gymnastics* (7). Exercises simulating occupational or play forms, at times, are called mimetic. The use of the term, natural gymnastics, to include practice in the technique of all motor movements that relate to occupational, play, and dance forms is gaining recognition. Such gymnastics are valuable in teaching the correct form of athletic sports; they may also be used, and more logically, as drill and practice in parts of an activity which is already known but in which the desired skill is not as yet developed. Drill that is unrelated to the real thing is often very much of a bore; its logical

place is in relation to the perfection of some phase of athletic activity. Some natural gymnastics, not athletic in character, may be used in the elementary grades as play and dramatic forms. Natural gymnastics (8) include the practice of the basic elements and fundamentals of racial activities. They involve in the program of the more formal activities the selection of exercises to be used as drill for the purpose of achieving increased skill and proficiency in natural forms that are known and practiced. This would mean that a group playing soccer on the football field would work in the gymnastic hour on exercises to improve the ability to play soccer; dry land swimming exercises for those in the pool would be used; and technique related to dances in use and known would be practiced. The entire range of games, dancing, sports, and athletics of all kinds would serve as material for selection and adaptation of exercises. Thus natural gymnastics achieves a relation to life and to the needs of school programs. At one stroke it avoids all the evils inherent in exercises of the artificial, unnatural, and unrelated type so often seen.

3. *Club work and leadership training.* The definite organization of boys and girls into groups, or clubs, or squads, for training in fine qualities of citizenship involving a knowledge of the characteristics of a good leader, ability and opportunity to choose the leader, and a responsibility for following the choice made, is very new in this field. The technique of organization as worked out by Rosenthal* at Speyer School (Junior High) has given the best practical results of any experiments made so far along this line.

The work is grouped around the activities of the gymnastic period and recreation hour, but carries over into the entire life of the school. The boys name the qualities

* Fretwell, E. K. "Education for Leadership." *Teachers College Record.* September, 1919, pp. 324–352.

to look for in leaders. In this as in all the elements of the work, the boy's idea is taken as the best guide of boy conduct. The function of the teacher of physical education is to suggest and lead the boys to consider desirable qualities.

The club idea is used because of the natural characteristics of the boy in this period. The activities and achievements are scored and the motive is the winning of the "Speyer 'S'". This "S" stands for more than athletic ability. It represents physical, social, mental, and moral efficiency. The opportunity of making the physical education program serve for efficiency in this larger view should be seized.

4. *Formal drills.* Formal physical training may be considered as a substitute for other and more desirable activity only when the previous types suggested for any sufficient reason cannot be used. These reasons may be abnormally large classes, lack of gymnasium or play space, very short periods, inclement weather, or inadequate teaching force. It is important to state that physical limitations should not be the ready excuse for the absence of a motivated and educative program. Natural gymnastics can be used in a limited space.

If formal calisthenic drills are used, they should be done well and should aim at definite ends. They are least objectionable when well taught because then some of the pupils will enjoy the activity. In arranging drills of this character it would seem important to emphasize three points:

a. Aim to obtain good posture throughout the lesson. The content must provide uplift of the body and the emphasis should be up and not down. Attempt to get a sensation of good posture.

b. Aim to secure alertness in response to commands and body control in all movements. Bring alertness into the voice and manner of commanding.

c. Aim to produce the general effects of exercise. To accomplish this, the movements must involve the large muscles of the legs and trunk—the "fundamental muscles." They must be performed vigorously enough to secure definite increase in heart rate, blood pressure, and respiration. Swinging Indian clubs is valueless in this respect. There is considerable question whether it has any intrinsic value at all.

5. *Exercises on apparatus.* The use of apparatus as an object of difficulty to be overcome gives a certain acceptance to its employment in rational physical education. Its use to the extent advocated by German gymnasts is condemned, if only because of the exclusion of other and more desirable activity. The dangers in prolonged use and overdevelopment of arms and shoulder girdle are real; the German gymnast, as a type, represents an inefficient motor mechanism.

The selection of apparatus for boys may be justified when the same use for girls would be condemned. It would seem from knowledge of differences in anatomic structure of the sexes that girls should not practice exercises involving a support by the arms alone, that the more vigorous forms should be omitted, and that the emphasis should be on vaults, jumps, and climbing with arms and legs both.

Hanging and swinging exercises of the usual kind are undesirable for girls because in comparison with boys,

a. The girl's weight is lower.
b. The girl's strength is less.
c. The danger of a fall is greater.
d. The results of a fall are liable to be more serious.

Now since exercises on apparatus have in the main been developed by men and taught by men and since girls unwholesomely desire to do all the exercises that boys do, it is important to state that,

(1) Girls' exercises on apparatus need careful modification with reference to the girl's body structure, specialized function, and probable occupation in life, and that,

(2) Women instructors for girls will probably be more appreciative of the health values involved than men.

GIRLS' ATHLETICS

ASSIGNED VALUES FOR DIFFERENT RANKS

EVENT	10		9		8		7		6		5		4		3		2		1			Number rating events in each case	Total value of each event	Per cent valuation of each event on scale of 10
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21			
1 Swimming	8	20	2	2	1	2																35	340	9.7
2 Tennis	5	6	9	4	1	4	2		1													32	287	8.9
3 Volley ball		1	6	2	4	2	3	9	2	1	1	2										33	247	7.4
4 Handball	2	2	1	1	3	6	5	2	4	2	5		1									34	244	7.1
5 Indoor baseball	1		2	6	4	7		3	4	3	2											32	243	7.5
6 Basketball (girls')	1		2	6	3	3	5	3	1	2	3		3									32	231	7.2
7 Golf			4	5	6	1	1	2	3	3	3	3				1						32	227	7.0
8 Bowling	1		2		4	4	5		5	4	1	3	2	1	2							34	219	6.4
9 Field hockey		2	1		3	3	2	6	3	3	1	1	1	4								30	199	6.6
10 Center ball			1	1	1	2	1	7	5	2	2	4	2			2						30	184	6.1
11 50-yard dash	1	2	1	1		1		2	3	2	8	2	3	1	3							30	175	5.8
12 Hiking	12	2	1				1															16	156	9.7
13 Hurdle races						1	1		3	4	1	10	2	3	1	3		1				30	146	4.8
14 Boating and canoeing		1	2	2	1	1																7	62	
15 Skating (ice)				3		3								1								7	55	
16 Dancing	3	1																				4	40	
17 Riding					2		1															3	23	
18 Coasting							1		1					1								3	17	
19 Quoits							2				There are too few judgments											2	14	
20 Bat ball										2	to use the data below the line to											2	12	
21 Calisthenics	1										determine group opinion. In one											1	10	
22 End ball					1						sense, however, the opinion of											1	9	
23 Sailing						1					the group is given: only a few											1	8	
24 Jumping									1		considered these events worth											1	6	
25 Archery											listing.					1						1	3	
26 Javelin																	1					1	2	

6. *Athletic sports.* Athletic sports and games furnish very desirable material because of the instinctive appeal in such plays and the opportunities they present for the development of moral and social values (9). Classifications of boys' and girls' events, as proposed by authorities in physical education, are given on pages 61 and 62.

A group of thirty-six advanced students in the study of problems of administration of physical education arranged boys' and girls' activities in order of value. The selection was for junior and senior high school groups. The values for consideration were the worth of the event for the

BOYS' ATHLETICS

ASSIGNED VALUES FOR DIFFERENT RANKS

EVENT	10		9		8		7		6		5		4		3		2		1			Number rating events in each case	Total value of each event	Per cent valuation of each event on scale of 10
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21			
1 Swimming	7	11	9	4	1	1		1														34	320	9.4
2 Baseball	6	6	4	5	2	4	1	1	3	1		1										34	292	8.5
3 Tennis	2	3	2	10	4	4	2	1	1	2	4	1										36	286	8.2
4 Handball	3	2	6	3	2		6	4	1	1	1	3	1									33	253	7.6
5 Boxing	1	2	5	1	5	4	1	4	3	1	1		1	1	1		1		1			33	234	7.0
6 Bowling		1	2	2	3	5	5	2	2	4	3	2	1	1	1		1					35	233	6.6
7 Basketball		1	2	4	1	1	2	4	5	4	5		4	1								34	201	5.9
8 Hiking	13	4					1															18	177	9.8
9 Track and field	2	3						4	3	2	2	5	1		2	1		1		3		31	176	5.6
10 Soccer					2	2	2	2	4	1	3		5	2	2	3	1	1		1		31	153	4.9
11 Center ball			1		2			2	5	1	1	3	1	4	4	4	4	1				33	149	4.5
12 Football			1	1	2		1		2	2	1	3	1	4	2	2	2	1		1		25	124	4.9
13 Ice hockey					3	1	1	2	2	2		2	2	3	3	2			1			24	123	5.1
14 Field hockey					1		1		1		3	4	5	6	3	1	1					26	114	4.3
15 Squash					1	1	2		1	1	4	3	2	2		2	4	2			1	26	112	4.3
16 Cricket							1		2	1	1	2	1	4	6	3	4	2	1			28	100	3.5
17 La Crosse								1	1	2	2			3	3	3	5	3	3	1	1	28	86	3.0
18 Golf		1		2	2	1			1				1								2	12	79	6.5
19 Quoits		1		2						2												5	38	
20 Skating							2				1		1					1				5	25	
21 Canoeing	1						1	1														3	24	
22 Coasting							1		1				1									3	17	
23 Calisthenics	1				There are too few judgments to use the data																	1	10	
24 Riding				1	below the line to determine group opinion.																	1	9	
25 Dancing					1 In one sense, however, the opinion of																	1	7	
26 Sailing					1 the group is given: only a few con-																	1	7	
27 Lawn bowls					1 sidered these events worth list-																	1	6	
28 Fencing											1 ing.											1	5	
29 Polo															1							1	3	
30 Archery																		1				1	2	

individual in school in terms of physiologic, mental, and social needs and the practicability of the event as an item in a physical education program. The group also rated dancing and calisthenic exercises in order to compare these activities on the same bases.

The charts on pages 61, 62 indicate the results. It will be noted that values have been assigned to the different ranks. Thus, first and second choices are worth ten; third and fourth are worth nine; fifth and sixth are worth eight; etc. The number selecting each event is given and the total value according to the assignment. It will be noted also that the percentage valuation in each event is given. This is not carried out below thirteen for the girls and below eighteen for the boys. When the replies are fewer than twelve the number is so small that the valuation is worth very little as an index of group opinion.

It should also be noted that the entire list of events was not named by any one person. The returns in some cases gave only eight or ten as desirable selections. All events named by the group are listed, however.

If these events are rearranged in order of value according to the group judgment, the following results appear:

GROUP JUDGMENT OF ATHLETIC EVENTS
ON A SCALE OF TEN

Girls		*Boys*	
1. Hiking	9.75	1. Hiking	9.8
2. Swimming	9.71	2. Swimming	9.4
3. Tennis	8.9	3. Baseball	8.5
4. Indoor baseball	7.5	4. Tennis	8.2
5. Volleyball	7.4	5. Handball	7.6
6. Basketball (girls' rules)	7.2	6. Boxing	7.0
7. Handball	7.1	7. Bowling	6.6
8. Golf	7.0	8. Golf	6.5
9. Field hockey	6.6	9. Basketball	5.9
10. Bowling	6.4	10. Track and field	5.6
11. Center ball	6.1	11. Ice hockey	5.1
12. Fifty-yard dash	5.8	12. Football	4.95
13. Hurdle races	4.8	13. Soccer	4.93
		14. Center ball	4.5
		15. Field hockey	4.38
		16. Squash	4.3
		17. Cricket	3.5
		18. La Crosse	3.0

Concerning the above rating it will be noted that hiking ranks first although only sixteen named it for girls and eighteen for boys. However, if sixteen be a fair number, as representative of opinion in the group, this rating may be permitted. If it is considered that a majority should be selected as determining group judgment, then hiking would be ruled out and swimming would be first. The other events would remain the same. This would seem unfortunate since thirteen placed hiking first for boys and twelve for the girls.

7. *Games* (10). The following classification of games is based on a wide use of these games with children on the playground. It is believed that the age period is correct.

GAMES FOR CHILDREN BETWEEN THE AGES SEVEN AND NINE YEARS

B—Bancroft; A—Angell; J—Johnson; B & P—Bancroft and Pulvermacher.

1. Cat and Mouse. B.
2. Garden Scamp (also called "Fox and Gardener," "Follow Chase," and "Fox and Farmer"). B.
3. Hide and Seek Games are as follows:
   "Hide and Seek." B.
   "I Spy." B.
   "Ring-a-lee-vio." B.
   "Run, Sheep, Run!" B.
   "Smuggling the Geg." B.
   "Ten Steps." B.
   "Yards Off." B.
   "Sardines." B.
4. Puss in the Corner. B.
5. Puss in the Circle. B.
6. Witch in the Jar. J.
7. Tommy Tiddler's Ground (also called "Dixie's Land" and "King's Land"). B.
8. Come with Me (similar to "How-do-you-do"). J.
9. Drop the Handkerchief. B.
10. Have you seen my Sheep? B.
11. Gypsy. B.
12. House-hiring (similar to "Puss in the Circle"). J.
13. The Boiler Burst (same as "Save Yourself if You Can"). J.
14. Hawk and Chickens. J.
15. Shepherdess and Wolf (also called "The Chickens and Fox" and "Fox and Geese"). B.

16. The following are some common forms of tag for this period:
    Shadow Tag. B.
    Squat Tag. B.
    Wood Tag. B.
    Stone Tag. B.
    Whip Tag (also called "The Twisted Kerchief," or "The Beetle Goes Round"). A.
17. Stealing Sticks. B.
18. Lame Goose (similar to "Tommy Tiddler's Ground"). J.
19. Hill Dill (also called "Peel Away," or "Pom, Pom, Pull Away," or "Chinese Wall"). B.
20. Dare Base. J.
21. Bound Hands (similar to "Hill Dill"). J.
22. Fast Runners (also called "Last Couple Out," "Widower," "Last Pair Pass," and "Widow"). B.
23. Follow the Leader. B.
24. Five Geese in a Flock. J.
25. Black Man (similar to "Bound Hands"). J.
26. Black Tom (similar to "Ham, Ham, Chicken, Bacon!"). B.
27. Going to Jerusalem. B.
28. Huntsman. J.
29. Hoop Race. J.
30. Encounters. J.
31. Turnpikes. J.
32. Catch Ball (also called "Ring Call Ball," "Number Ball," and "Snake in the Grass"). B.
33. Circle Ball. B.
34. Days of the Week. J. (Page 108—not indexed.)
35. One Old Cat. J. (Page 108—not indexed.)
36. Two Old Cats. J. (Page 108—not indexed.)
37. Round Ball. B.
38. Fungo. J. (Not indexed.)
39. Faba Gaba, or Bean Bag Game. B.
40. Ring Toss. J.
41. Tenpins. J.
42. Moon and Morning Stars. B.
43. Midnight (also called "Twelve O'Clock"). B.
44. Center Catch Ball. B.
45. Bean Bag Circle Toss. B.
46. Bean Bag Ring Throw. B.
47. Center Base. B.
48. Hopping Relay Race. B.
49. Single Relay Race. B.
50. Water Sprite. B.
51. Bean Bag Box. B.
52. Ball Chase. B.

53. Chinese Chickens. B.
54. Dodge Ball (informal). B.
55. Lame Fox and Chickens (also called "Lame Goose"). B.
56. Line Zigzag I. B.
57. Prisoner's Base I. B.
58. Shuttle Relay (also called "Double Relay" or "Flag Race"). B.
59. Who Goes Round My Stone Wall! B.
60. Jump Rope. B.
61. Cushion Dance (similar to "Poison"). J.
62. Sail the Ship. J.
63. Charlie Over the Water. B.
64. Hop Scotch.
65. Jackstones.
66. Mumble the Peg or Knife.
67. Marbles.
68. Feather Game (also called "Feder Basen." Use fan in this game instead of blowing with the breath). J.
69. Bird Catcher. B.
70. Queen Dido is Dead. J.
71. Hunt the Slipper (also called "Cobbler"). B.
72. Hunt the Ring. B.
73. Paddy from Home. J.
74. Blind Man's Buff. B.
75. French Blind Man's Buff. B.
76. Ruth and Jacob. J. Jacob and Rachel. B.
77. Birds Fly. B. (Indexed as "Bird Catcher.")
78. Simon Says. B.
79. Silence in the Courthouse. B. (Indexed as "Poor Pussy.")
80. Wee Bologna Man (similar to "The King of France"). B.
81. Weather Cock. B.
82. Frog in the Middle. B.
83. Button, Button. J.
84. Magic Music. J.
85. Beast, Bird, or Fish. B.
86. Railroad Game. J.
87. Trades. B.
88. Crambo. B.
89. Schoolmaster. J.
90. Observation. B.
91. Draw a Bucket of Water. B.
92. The Bird Catcher. B.
93. The Flower and the Wind. B.
94. I Say "Stoop." B.
95. Flower Match. B.

96. Any number of singing games, such as:

Looby Loo. B.
The Mulberry Bush. B.
When I Was a Shoemaker. J.
When I was a Young Girl. J.
Farmer in the Dell. B.
Go Round and Round the Village. B.
Green Gravel. J.
Jenny Jones. J.
London Bridge. B.

Numerous other singing games as found in the books on folk dances and singing games.

GAMES FOR CHILDREN BETWEEN THE AGES TEN AND TWELVE YEARS

A great many games of the preceding period can be used in this period also, such as 15, 16, 17, 18, 23, 26, 32, 39, 40, 48, 54.

In case children between the ages of ten and twelve years have not played many games, emphasis should be first upon circle games before attempting to teach team games.

Games New to this Period

1. Bull in the Ring. B.
2. Sheepfold (a trifle rougher than "Cat and Rat"). J.
3. Green Wolf (also called "Hunkety"). J.
4. Wolf. B.
5. Sling the Monkey. J.
6. Baste the Bear. B.
7. Hopping Bases. J.
8. Cross Tag. B.
9. Hang Tag. B.
10. Follow Tag.
11. Hunting Tag.
12. Three Deep. J. (Also called "Twos and Threes," "Last Man," and "Third Man"). B.
13. Hare and Hound. J.
14. Chalk the Arrow (a variation of "Hare and Hound").
15. Relay Race. B.
16. Obstacle Race. J.
17. Fireman's Race. J.
18. Chariot Race. J.
19. Town Ball. J.
20. Ducks on the Rock (also called "Stake Guard"). B.
21. Rolly Polly. B.
22. Crack About. B.
23. Spud. B.
24. Kick Over (indexed as "Kick Ball"). A.
25. Couple Tag (indexed as "Partner Tag"). B.
26. Corner Ball. B.
27. Balloon Ball. B.

28. Keep Ball. J.
29. Drive Ball (also called "First Ball"). B.
30. Tip Cat. J.
31. Ring Ball. J.
32. Wicket. J.
33. American Football. J.
34. End Ball. B.
35. All Up Relay. B.
36. Animal Chase. B.
37. Arch Ball. B.
38. Bag Pile. B.
39. Corner Spy. B.
40. Captain Ball II or III. B.
41. Catch of Fish. B.
42. Catch the Cone (similar to "Number Ball" or "Circle Ball" with the exception of the use of a cone instead of a ball). B.
43. Criss Cross Goal. B.
44. High Windows. B.
45. Straddle Ball (also called "Astride Ball"). B.
46. The Hunt. B.
47. Leap Frog Race. B.
48. Crawling between Legs Relay Race.
49. Numbers Change (similar to "Interchange," "Exchange," or "French Tag"). B.
50. Pass Ball Relay. B.
51. Over and Under Relay. B.
52. Potato Races:
    Potato Race I B.
    " " II B.
    " Shuttle Race. B.
    " Spoon Race. B.
53. Arch Goal Ball. B.
54. Basket Ball distance throw. B.
55. Club Snatch. B.
56. Dumb Bell Tag. B.
57. Third Slap. B.
58. Ball Puss. B.
59. Triple Change. B.
60. Passing Race.

GAMES FOR CHILDREN BETWEEN THE AGES THIRTEEN AND EIGHTEEN YEARS

1. Black and White (similar to "Day and Night"). B.
2. Bombardment. B.
3. Fence Tag. B.
4. Oyster Shell (good for boys). B.

5. Poison. B.
6. Rolling Target. B.
7. Saddle the Nag (good for boys). B.
8. Slipper Slap (good for boys).
9. Third Man. B.
10. End Ball. B.
11. Corner Ball. B.
12. Dumb Crombo. B.
13. Emperor Ball. B.
14. Forcing the City Gates. B.
15. Fox and Geese. B.
16. Line Club Bowls (double). B.
17. Mount Ball (good for boys). B.
18. Odd Man's Cap. B.
19. Pass and Toss Relay. B.
20. Pinch-O. B.
21. Volley Ball. B.
22. Wand Tug of War. B.
23. Zigzag Overhead Toss. B.
24. Dead Ball. B.
25. Bend and Stretch Relay. B.
26. Up Jenkins (quiet game). B.
27. Catch and Pull Tug of War. B.
28. Battle Ball. B.
29. Circle Race. B.
30. Circle Relay. B.
31. Line Zigzag III. B.
32. Maze Tag. B.
33. Nine Court Basketball. B.
34. Overtake. B.
35. Poison Snake. B.
36. Square Ball. B.
37. War. B.
38. Hen Roost (quiet game). B.
39. Round Ball. B.
40. Minister's Cat (quiet game). B.
41. Bound Ball. B.
42. Boundary Ball. B.
43. Sketches (quiet game). B.
44. Circle Club Bowls. B.
45. Circle Zigzag. B.
46. Japanese Crab Race. B.
47. Line Club Bowls (single). B.
48. Master of the Ring. B.
49. Pig in a Hole (also called "Driving the Pig to Market" or "Peg Ball"). B.

50. Stool Ball. B.
51. Wand Race. B.
52. Basketball. J.
53. Human Burden Race. A.
54. Free Hopping (Rooster Fight or Chicken Fight). A.
55. Foot in the Ring. B. (Indexed as "Poison.")
56. Quoits. J.
57. Playground Ball. B & P.
58. Tower Ball (also called "Hold the Fort").
59. Hat on Back. A. (Indexed as "Cap Tag.")
60. Hat Ball (also called "Nigger Babies" or "Pitch Cap"). B.
61. Double Dodge Ball. B.
62. Base Dodge Ball (also called "Bull Pea"). B.
63. Soccer Football. Spalding's Athletic Library.
64. Progressive Dodge Ball. B.
65. Dodge Ball in Three Fields. B. (Indexed as "Double Dodge Ball.")
66. Run Dodge Ball. B. (Indexed as "Circle Dodge Ball.")
67. Captain Ball. B.
68. Rider Ball (also called "Mount Ball" and "Horse and Rider"). B.
69. Battle Ball. B.
70. Tether Ball (also called "Tether Tennis"). B.
71. Baseball. Spalding's Athletic Library.
72. Football. Spalding's Athletic Library.

8. *Dancing.* There are several types of dancing used for educational purposes in schools and colleges as well as for recreational forms in various organizations, such as clubs, settlements, stores, factories, and large business houses. An evaluation of the different types in connection with their uses is important.

a. Folk dancing (11). Dances of the people of different countries have been handed down from generation to generation very much as folk stories have been perpetuated. They take a similar place in the interpretation of folk history that the stories possess, but are at times richer in their delineation of feelings and emotions because of the better instrument employed and because of the constant association with a characteristic music. The folk dance can be

used as a means to teach valuable folk lore and custom while at the same time satisfying a very wholesome desire to dance. Its use in school and college, and as recreation for selected groups is to be approved.

b. Social dancing. The attitude of the public with reference to the social dance reflects the accepted customs of the times. While recognizing that the social dance both in position and often in movement is, between the sexes, a romantic dance with certain erotic features, it is equally important to state that young people will make love and will dance and that an educator should be interested more in setting desirable standards, concerned more in promoting wholesome relations between the sexes than in attempting to check and subdue natural, socially useful impulses. An effort to imprison Venus not infrequently is the cause of unwholesome habits due to association in places without good standards. The school and college should be interested in developing normal wholesome relations between the two sexes; the social dance may be made effective in doing this. It serves admirably for recreational purposes and would accomplish worth while hygienic results if there were an improvement in the social standards of men and women, and if late hours were not fashionable.

c. Natural dancing. Under this heading should be grouped all those forms that work from the expression side rather than from the technique side. Lyric, classic, or rhythmic dancing is natural if it uses natural rhythms and forms and is concerned with expression of ideas or feelings.

"Aesthetic" dancing is to be condemned. It does not belong in a rational physical education because,

(1) Its forms are artificial.

(2) It tends to develop self-consciousness.

(3) It does not serve as a means of expression for the individual, but is concerned mainly with poses, technique, and difficult motor combinations.*

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CHAPTER FOUR

Organization of a Department of Physical Education

First consideration.—In attempting an organization of a department of physical education, the president, superintendent, or board of trustees, or directors should attempt to arrive at an understanding of what they want that department to mean and contribute to the life of the school. This is of paramount importance. That having been determined, the problem then is to select a director who will be able to understand and work toward the goal set by the school administration. (Cf. Chapter V.) The plan of hiring a teacher to supervise the exercise of the students results too often in a type of department that is interested only in perspiration and gymnastic exhibitions. It should be clear at this point that modern physical education does not accept such aims.

After the standards of work and the general aim of the department have been determined and the director appointed, the plan of organization may be considered. There are different types.

Public school department of physical education.—In the public school field the usual arrangement places the director or supervisor directly responsible to the superintendent of schools for the conduct of the work of the school programs. The teachers of physical education are usually directly responsible to the principal of the schools in which they are working, and secondarily responsible to the supervisor of physical education. This has some advantages in unifying the work of a particular school;

it is theoretically undesirable if it permits the principal to determine the character, extent, and kind of work given. The organization in the larger cities is as follows:

Chicago. Special teachers of physical education are directly responsible to the principal of the schools in which they are working, and secondarily to the supervisor of physical education. The supervisor in turn is an advisor to the superintendent of schools in matters relating to physical education.

Baltimore. The supervisor of physical training directs this work in all the elementary schools and to a somewhat less extent in the secondary schools. For this purpose, he has thirteen assistant supervisors helping him in elementary schools. In the secondary schools, the special supervisors of physical training are members of the faculties of the schools but subject to the supervision of the supervisor. This department, as well as all others in the schools, is under the control of the superintendent whose approval is required for all its activities. The relation to the board is entirely through the superintendent.*

Kansas City (Missouri). The director of physical education is responsible to the superintendent of schools. The director has twenty-five assistants, who report directly to him.

San Francisco. The director of physical education is appointed by the superintendent of schools and the board of education. The director of physical education is given the complete responsibility of organizing and conducting a department of physical education and must conduct the work in accordance with the California state law of compulsory physical education.

The department consists of a director of physical education for elementary and high schools, five supervisors of elementary schools (women), one supervisor of

* See the *Baltimore School Survey*, 1920-21, Vol. 2, pp. 245-320.

boys' athletics of the elementary school (man), and enough instructors (men and women) to care for the students of the five high schools according to the size of the school—approximately three hundred to three hundred and fifty children for each instructor. There are twenty-four teachers of physical education in this department of five high schools and eighty-five elementary schools.

Denver. Physical education in Denver is under three divisions, elementary schools, playgrounds, and cadet corps. The elementary schools and playgrounds are under the supervision of one director; the cadet corps is under another director who is also scout executive. The work is organized along the lines of the New York state organization.

Seattle. The director of physical education is in charge of physical education in the grades and high schools. He is directly responsible to the superintendent of schools for the work done in his department.

Boston. The rules and regulations of the Boston Public Schools define the duties and responsibilities of the director of physical training as follows:

> The Director of Physical Training shall have supervision and control of physical training, military drill, athletics, sports, games, and plays engaged in by pupils, or conducted in buildings, yards, and grounds under the control of the School Committee, or in other yards, buildings, and grounds that it may have the right to use for such purposes; he shall assign the duties to be performed by the various teachers and employees who conduct the activities; be responsible for the efficiency and character of service rendered by each; also for the proper care of all physical training and military equipment and supplies.

Detroit. An unusual arrangement that is still in an experimental and tentative stage relates the assistant director of health education to a director of teacher training and research. This director holds a position similar to that of an assistant superintendent. The accompanying diagram (Fig. 3) has been furnished by the director.

BOARD OF EDUCATION - - CITY OF DETROIT
ORGANIZATION OF THE DEPARTMENT OF PHYSICAL EDUCATION.

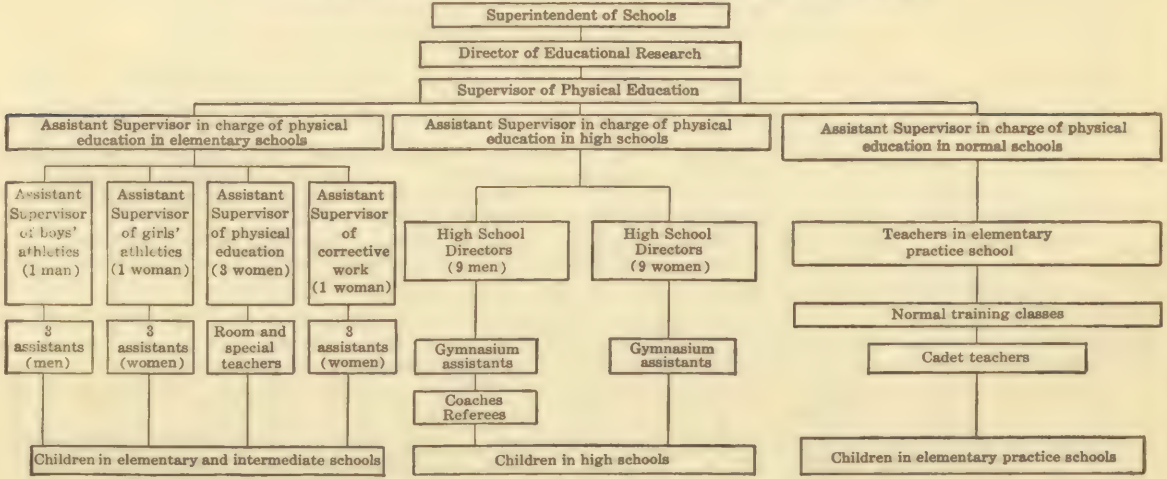

Fig. 3. The supervisor of physical education has charge also of the administration of public baths in the various schools of the city, and has direct connections with the work of the recreation commission.

The director of educational research has charge of the direction of both research and supervision for the city, and is a member of the superintendent's staff. It is probable that some time in the future the person who holds this position will be made an assistant superintendent in charge of instruction and research.

Fig. 4. In addition to the activities provided in the above outline, "Wanderlust" walks are held every Saturday under volunteer leaders.

Philadelphia. A diagram indicating the organization in the Philadelphia schools is given in figure 4. It shows the director of physical education under the supervision of an associate superintendent and reporting indirectly to the superintendent of schools. If any one of the associate superintendents were prepared by training or experience to supervise all the health aspects of the school, and if the director of physical education reported to him, there would be important reasons for the type of organization suggested here. An associate superintendent in charge of special activities, who will be inclined to think of physical education as presenting the same problem as music or drawing, offers merely an arrangement by which the superintendent delegates fields of supervision.

New York City. In New York City there is relatively a wide participation in all the activities affecting the health of school children. It will be noted that the director of physical training has three main divisions of work: (1) physical training; (2) educational hygiene; and (3) athletics.

The athletic program is very well developed in coöperation with the Public School Athletic League. The director of physical training in the schools serves as secretary of the boys' branch of the league and usually a similar position in the girls' branch is held by one of the assistant women directors. This arrangement facilitates the school program of physical training. The syllabus in hygiene provides direction for the hygiene of instruction, instruction in hygiene, inspection of pupils, and observations for physical defects. The program of physical training, educational hygiene, and athletics is largely dependent upon the classroom teacher who has had little or no training. Obviously such a condition is a serious handicap. The work should be departmentalized at least down to the fourth grade.

The following chart (Fig. 5) indicates the organization:

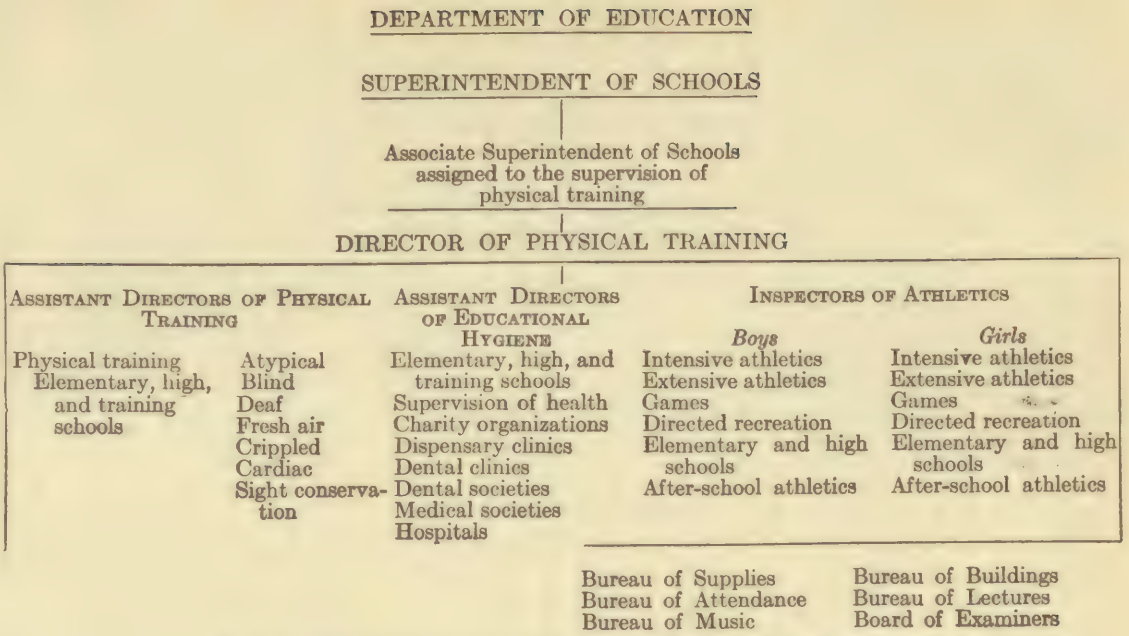

Fig. 5. Organization of the department of physical training, New York City Schools.

A suggested plan of organization.—Physical education deals with activities that affect the health of school children. It represents only one of the factors in the health field. An organization that would centralize in one office all the phases of school life concerned and entering into the health of the children would provide a supervisor

THE DIVISIONS OF EDUCATIONAL HYGIENE

SUPERVISOR OF HYGIENE

Medical supervision	School sanitation	Physical education	Teaching hygiene	Hygienic teaching
Nurses and doctors	School sites and architecture	Play and playgrounds	Health education of teachers	"The Hygiene of Instruction"
Inspections and annual examinations	Lighting	Physical training and gymnastics	Advising choice of best hygiene texts and topics	Fatigue, overwork and under work
School clinics	Heating	Medical gymnastics	Public hygiene study and cooperation	The type of books
Health census	Drinking water and fountains	Athletics and leagues	Health education of parents	Hygiene of school subjects
Discovering health needs	School cleaning	Posture and correctional exercises	Feeding, clothing, sleep of children	Interest and attention
Coöperating with Boards of Health and private organizations	Vacuum cleaners	Assisting in medical supervision	Home hygiene in domestic science	Inter-recitation recreation
Open air schools	School baths	Recreation	Vocational hygiene in industrial subjects	Transforming neurasthenic and "cranky" teachers
Limiting doctors to examinations, supervision of nurses, and work in clinic	Hygienic toilet facilities	School excursions and tramps	Talks by doctors, nurses, and specialists	Motor aspects of teaching
Psychologists, oculists, surgeons, dentists, physicians	School seats and desks	Boy Scouts and Camp Fire Girls	First aid	The gospel of work
Supervisor of school feeding	Decoration	Gymnasiums and athletic fields	Sex hygiene	The hygiene of joy in schools
Scientific study of prevention and cause of disease	The standard schoolroom	Swimming and bathing	Studying community health problems and methods of improvement	Preventing physical defects and pathological conditions
Careful records emphasizing serious ailments found and cured	Fire-proof construction	Pools, showers, and beaches	Daily oral questionnaire on home hygiene, use of tooth brush, coffee drinking, ventilation	School programs
Training school nurses for all inspections and examinations	Health, rest, and emergency rooms	Folk dancing	Health knowledge	Part time or whole time
Nurses as attendance officers	Playrooms and playgrounds	Physical educators with medical knowledge	Health ideals	Influence of vacations and holidays
	Open window rooms	H. S. cadets	Health efficiency	Health individuality
	Supervision of janitors	Classroom games		Hygienic effects of different methods
	Hygienic cloak rooms	Pay for supervising play after school and Saturdays		The teacher as medical guardian
	Drying and warming seats	Cultivating the Greek ideal of physical educaton and mental perfection		
	Investigations of recirculation, humidity, air-cleaning, disinfection, etc.			

of educational hygiene. Rapeer (1) strongly urges such a type of organization. He places under the division of educational hygiene five departments (page 81).

Rapeer's organization is quite ideal. In practice, however, it is exceedingly difficult to find the person properly qualified to head such an organization. If the applicant has had training in medicine and physical education, he frequently lacks that other essential—an educational point of view. When the right man can be found, the unified organization is quite the best.

The supervisor of educational hygiene* should be responsible to the superintendent of schools and the board of education. It would be desirable for this office to be able to report to the board of education through a committee on hygiene. The diagram in figure 6 would seem to present a desirable type of organization.

Another plan (Fig. 7) offering different arrangement with a better distribution is based upon the results of a survey of the Medical Inspection Hygiene Teaching and Physical Education of the Baltimore Public Schools. This plan is superior to the preceding ones in that the director may be chosen largely for his executive and administrative abilities. The supervisors would be responsible for the technical work. This would not require that the director be a doctor of medicine.

University department of physical education.—The tendency in university physical education is to center all the physical activities of the students, and to place under one head the responsibility for physical education in the gymnasium or on the athletic field. There are promising instances of a movement that will take away the control of athletics from the student association and will place the athletic teams on the same standing with reference to responsibility and control as that of the credit classes of

* Director of hygiene and physical education would be a more satisfactory title.

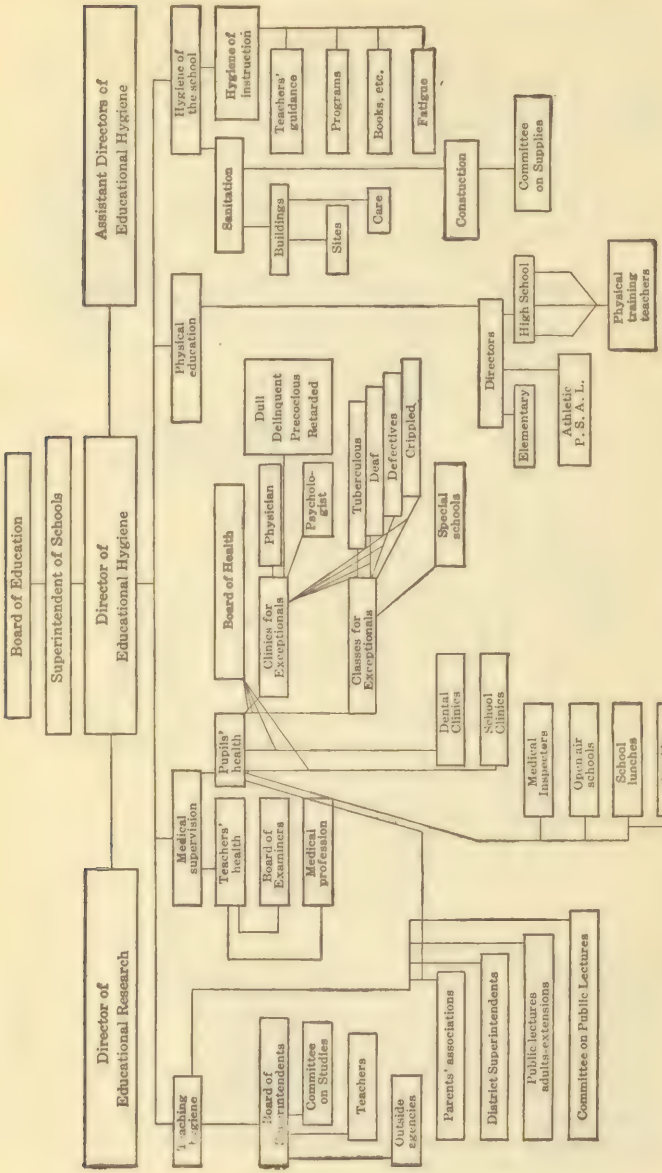

Fig. 6. This is a comprehensive organization suitable for cities of 50,000 population or over.

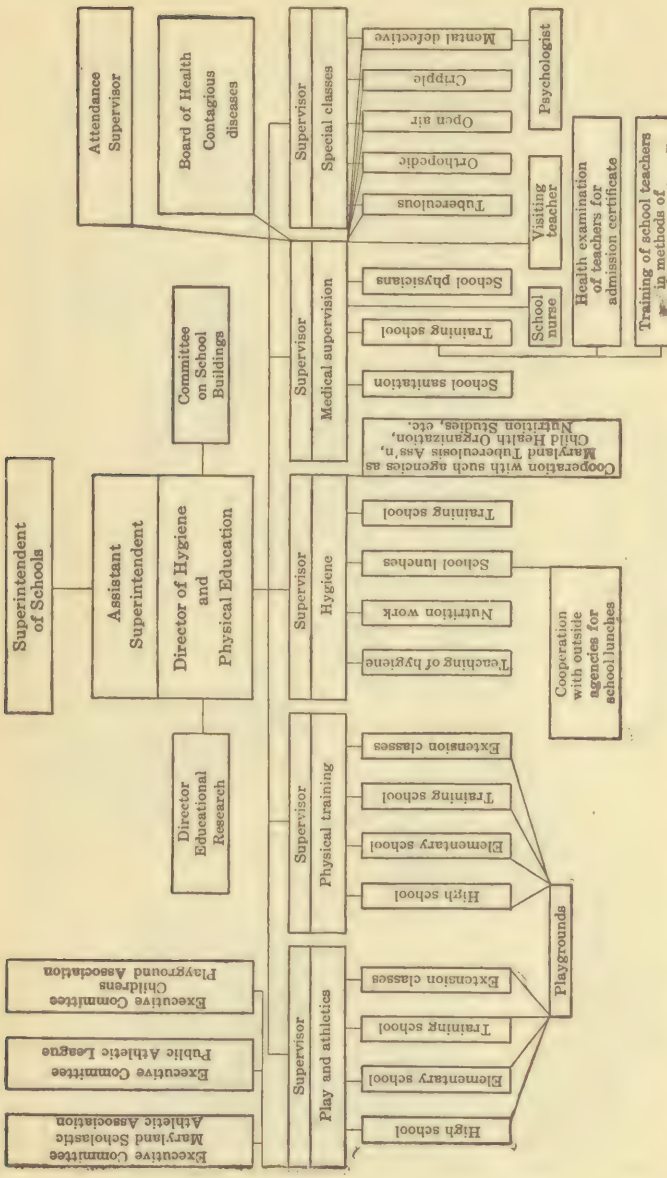

Fig. 7. This plan of organization was recommended for the Baltimore Public Schools. See the *Baltimore School Survey*, 1920–21, Vol. 2, pp. 245–320.

the gymnasium. In some places, alumni councils, student boards, and quasi-faculty committees continue to work for the old specialized varsity team, but the more progressive institutions have broken clean from the old control.

The problem in the colleges and universities for educative athletics is a problem of satisfying the alumni who want what they had when they were college lights. Some one has said, "A good alumnus is a dead alumnus." It is undoubtedly true that alumni influence in athletics is more harmful than helpful, that its vision is not educational but spectacular and that all the advances in method toward amateurism, extensive athletics, and educational approach have been made in spite of alumni opposition. It would seem to be a wise plan for departments of physical education to look to the training of alumni and make a definite effort to educate the undergraduate body in educational athletics to the end that as alumni their voice and influence may be operative on the side of education.

Oberlin College represents a good type of organization. A letter from Professor C. W. Savage follows:

> We have no student athletic association. All athletic activities, intramural and intercollegiate, are handled by the staff of the department. This consists of the following men at the present time:
>
> One Professor of Hygiene and Physical Education and Director of the Gymnasium.
>
> One Professor of Physical Education and Director of Athletics.
>
> One Associate Professor of Physical Education who coaches intercollegiate football and track.
>
> One Assistant Professor of Physical Education who coaches intercollegiate basketball and baseball.
>
> One instructor, who assists all the other members of the staff as needed, and is directly responsible for intramural activities such as interclass football, basketball, and baseball, including inter-boarding house and inter-rooming house baseball. Hand ball, volley ball and giant volley ball (cage ball is used), and mass athletic competition between the divisions of required physical education classes are also promoted by him.
>
> Purchase of supplies and equipment and arrangement of intercollegiate schedules are handled by the Director of Athletics. The stock

room is handled by our present janitor, who happens to be just the right man for that kind of work. He looks after the repairs and has all the equipment ready when needed. He is given student assistants in the care of the gymnasium in order to enable him to do this work with the equipment. (April 27, 1921.)

A graphic representation of a good type of organization, different from the Oberlin idea, is given in figure 8.

A good type of organization of student activities introduced at the University of Cincinnati failed because of the antagonism aroused by the method used in introducing it. The plan is outlined in figure 9.

There are three prevailing views on organization of athletics in the school or college.

One view looks upon the program in the gymnasium as part of the work of the school and considers athletics as "play," and therefore as an affair of the students, to be controlled to be sure, but not to be fostered or directed as a part of the educational policy of the institution. It is needless to remark that holding such a view, the officers of administration are concerned mainly with "sitting on the lid."

The second view looks upon athletics as a very vital and real educational means and holds that its direction, supervision, and control should not lie in the student body, nor in an alumni council, but should reside in the faculty and particularly in the department of physical education. This view appreciates that games and athletic sports may be, when wisely conducted, valuable means of bodily training, but is not contending for this control on the basis of its body-building properties. It is contending for educational supervision because of the prominent educational values inherent in competitive sport. It seeks student coöperation, leadership, and followership always with the understanding that guidance, advice, and counsel by the faculty are needed.

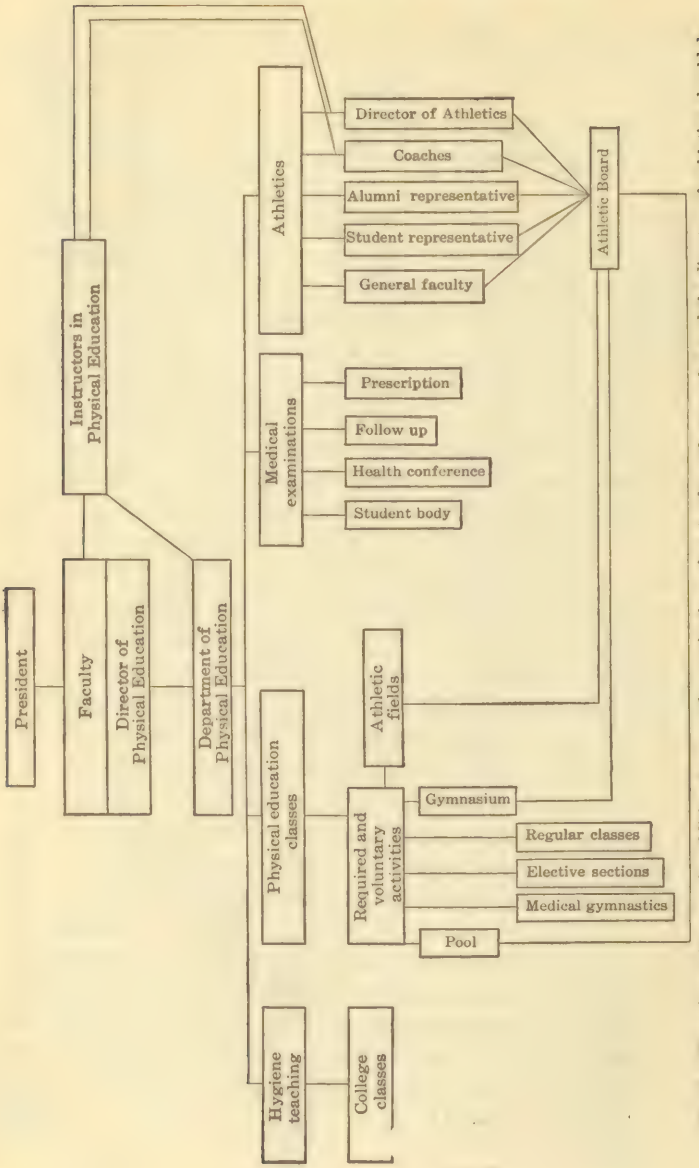

Fig. 8. The above diagram, in addition to general organization, aims to show that coaches and the director of athletics should be members of the department of physical education with corresponding membership in the faculty.

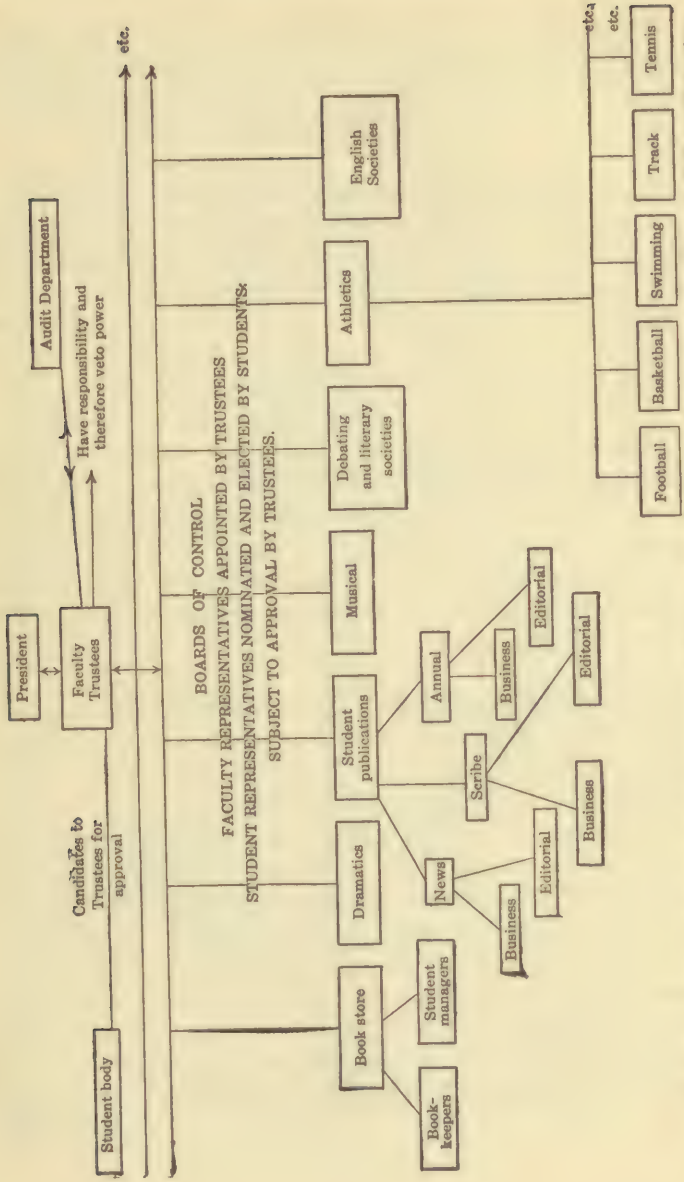

Fig. 9. If the students are to share in the management of athletics, the above plan gives opportunity and responsibility with faculty guidance.

The third view holds that the "work" is to be given to the pupils and students irrespective of their likes or dislikes in the matter.

We support the second view because we know that it may under proper development secure the most satisfactory results for all concerned.

Organization of physical education for girls and women. A department of physical education to serve girls in high school and young women in college should conform in principle to the same general plans as given above. There are important values to keep in mind in organizing a department for girls' work in physical education. These may be given as follows:

1. Women should teach girls' classes and should coach girls' athletic teams. The practice in high schools of selecting men to teach girls' gymnastic classes or to coach their teams is distinctly bad. The man sets men's standards in performance; he fails to appreciate the girl's limitations in strength and her periodic disability.

2. The activities in the gymnasium, on the playground, or athletic field should be organized around the idea of girls' specific standards and accomplishments. The use of boys' and men's athletic events or men's gymnastic and calisthenic movements for girls and young women is unsuited in many cases. To determine activities that are acceptable for girls is the most important single work for the director of girls.

State organization of physical education.—The recent development of interest in the plans for state physical education has shown signs of some permanence. In February, 1921, twenty-three states had passed laws as shown in the following compilation by Daniel Chase:

	Nature of legislation	Date of legislation	Extent of application	Is there a Director?	Class instruction	Supervised play	Athletics	Instruction in hygiene	Provision for teacher training	State appropriation for adm. and superv.	State appropriation for teachers' salaries	Daily elementary school	Weekly high school	Required for graduation	Blanket power
Alabama	M	1919	G	Y	...	...	...	...	...	...	...	...	...	...	Y
California	M	1917	G	Y	Y	Y	Y	...	Y	Y5	...	...	20–120	...	Y
Delaware	P	1918	G	...	...	...	...	...	...	...	...	...	...	...	...
Georgia	M	1920	G	...	Y	Y	...	...	Y	...	...	30	...	Y	...
Illinois	M	1915	G	...	Y	...	...	Y	Y	...	...	60– 60	...	...	Y
Indiana	P	1919	G	...	Y	Y	Y	Y	Y	...	...	15–120	...	Y	Y
Kentucky	M	1920	G	...	Y	...	...	Y	Y	...	...	30	...	Y	Y
Maine	M	1919	G	...	Y	Y	...	Y	Y	...	Y	...	...	...	Y
Maryland	M	1918	G	Y	Y	Y	Y	...	...	Y	...	15–120	...	...	Y
Michigan	M	1919	G	Y	...	...	...	Y	Y1	Y	...	...	...	...	Y
Mississippi	M	1920	G	...	Y	Y	Y	...	Y	...	...	...	...	...	...
Nevada	M2	1917	...	...	Y	...	...	...	...	...	Y3	...	...	...	...
New Jersey	M	1917	G	Y	Y	Y	...	Y	Y	Y	...	30–160	...	Y	...
New York	M	1916	G	Y	Y	...	...	Y	Y	Y	Y	20	...	Y	...
Oregon	M	1919	G	...	Y	...	...	...	Y	...	...	20	...	...	...
Pennsylvania	M4	1919	...	...	...	...	...	...	...	...	...	...	...	...	Y
Rhode Island	M	1917	...	...	...	...	...	...	...	...	...	20	...	Y	...
Utah	P	1919	G	Y	Y	...	...	Y	Y	Y	...	...	...	...	Y
Virginia	P	1920	G	Y	...	...	...	Y	Y	Y6	Y	...	...	...	...
Washington	M	1919	G	...	Y	...	...	...	Y	...	...	20-90	...	...	...
Idaho	M	1919	G	...	...	...	...	...	...	...	...	...	...	...	Y
North Dakota	M	1899	G	...	Y	...	...	...	...	...	...	...	...	...	...
Ohio	M	1904	...	...	Y	...	...	...	Y	...	...	...	...	...	...

1 Mandatory for cities, permissive for others; funds for same local.
2 For high schools, permissive elsewhere.
3 Based on state-wide taxation.
4 In cities of the first class, permissive in others.
5 For one year only, after by annual appropriation.
6 Supervision covers medical inspection also.
M Indicated mandatory law.
P Indicated permissive law.
G Indicated general application.
Y Indicated yes.

The state organizations follow different plans:

1. One state provides a state supervisor with assistant supervisors who see that the state syllabus is used according to the provisions of the law.

2. Another provides a state supervisor without salary.

NOTE.—Additional information on the status of state and national legislation for physical education may be secured from National Physical Education Service, 309 Homer Building, Washington, D. C.

3. Another provides a state supervisor, a well organized syllabus, but no inspectors.

It may be noted, therefore, that a state organization for physical education should require a state director who shall be director of physical education and if possible of health education also. There should be a well written, complete, modern syllabus, with the major emphasis on play and games, such as the California syllabus is. Finally, there should be enough inspectors or supervisors who would be stimulating and directing field agents, working in districts divided on rural and urban lines and then geographically.

National physical education (2).—Congress has in committee a bill for nation-wide physical education. It is modeled along lines similar to the Smith-Towner bill for vocational education. The organization of a department of education in the Federal government with provision for national physical education appears a likely development in the near future. Such organization might take a very helpful position in promoting physical education by work along three lines:

1. *Bureau of records and results.* A research bureau securing information concerning the best results available in the field, and promoting careful study to test and measure results and procedures scientifically.

2. *Bureau of expert service and advice.* It is conceivable that enormous waste in physical education could be prevented by having a central authority prepared to give to the states expert information, advice, and guidance in physical education.

3. *Bureau of teacher training.* Finally, there should be provided a bureau to help set standards, to help determine qualifications, and to make possible a sufficient number of adequately trained teachers.

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CHAPTER FIVE

The Teacher, Supervisor, or Director of Physical Education

The selection of teacher, supervisor, or director.—A common method of selecting teachers of physical education is by writing to teachers' agencies, and choosing the one from their offering that seems to have had the most experience or to possess qualifications that appear important. In this way a school in one county may obtain a teacher advocating a certain system of gymnastics while a neighboring county selects a teacher having opposite aims and using opposite methods and materials. Both teachers cannot be right in the sense that they both represent the best in the field of physical education and the result is that certain schools are doomed under the present practice to inadequate visionless training and leadership in immensely important activities. This situation has been stated in a recent paper* as follows:

> Our normal schools are not meeting their problems in a way which will give us national unity in physical education in the most effective way. One group teaches German gymnastics, another school specializes in Swedish gymnastics, a school in a different section teaches an eclectic compound with such success that our magazines are constantly publishing such anachronisms as, "A New System of Physical Education," "My System," "The Jonesville System of Physical Training" etc. There is antagonism between the schools with reference to the content of their offering; the rivalry should be on the basis of the personality and effectiveness of the teaching staff.

* Williams, Jesse Feiring. "Proposals for Preparedness in Physical Education." *American Physical Education Review.* November, 1916.

There is need for a centralized governmental agency to provide teachers of physical education (1). Such an agency would determine the kind of training and experience most valuable and would serve communities seeking teachers in such a way that at any time or place, the accepted source of supply and the field in need would be brought together. At present no such agency of government exists. It is therefore extremely important that schools and colleges and institutions of all kinds using physical education in their programs should be familiar with the different types of training given to students of physical education. Consideration should be given not only to the character of the practical work done but also to the point of view held and philosophy and theory presented. The success or failure of the work depends upon the type of teacher selected (2).

Two, three, and four year courses.—The training of teachers of physical education varies widely. Most of the schools require a high school certificate, although this is not uniform. The two year courses provide the high school graduate with instruction in gymnastics, dancing, theory of physical education, physiology, and anatomy. The three year courses give the same essential courses and additional instruction in hygiene and public health. The four year courses provide in addition to the professional work in physical education, courses in English, history, science, and modern languages. The four year courses offer a degree of A.B. or B.S. for successful completion of the work. The two and three year courses grant diplomas to the graduates. The degree of Bachelor of Physical Education, (B.P.E.) is given by the International Y. M. C. A. College and the Bachelor of Science in Gymnastics (B.S.G.) by the Normal College of the American Gymnastic Union. Both of these degrees require four years but lack the sanctions of the A.B. or B.S. The Normal

College of the American Gymnastic Union gives a two-year course leading to the *title* of Graduate in Gymnastics (G.G.).

The tendency in modern education today is to place the child in an environment where it may receive wholesome contacts. The demand on teachers is for leadership, high standards, and personal influence of a high character. As a specialist, the physical education teacher must be skilled and equipped by training to carry on the work of instruction. In a larger sense, that equipment should mean the ability to understand and appreciate, to guide and advise, to teach and inspire. No particular course of studies can give these qualities. They come with maturity and developed ideals.

Points in a good teacher.—In the final analysis, of course, the test of the teacher is in the school where he works. The prize-winning dog in the show is to be judged in the bush. And yet it is important to evaluate training, experience, and personality as elements of probable success.

1. *Training.* At one time all trained teachers of physical education were graduates of normal schools of a two-year course. To-day the choice is to be made between graduates of a four-year college course that includes two years of professional training and graduates of the private normal school giving two and in a few cases three years instruction. The college graduate is the better prospect in general because of the contact with men and women of college rank in students and instructors, because of the broader training with the chance of obtaining a broader point of view, and because of the value that comes to a special student studying in an atmosphere of general education.

Whether in private normal school or university, the course of study that provides in the professional training an emphasis on play, dancing, and athletics, as contrasted

with an emphasis on formal gymnastics, is most in touch with the times and the trend of modern physical education.

2. *Experience.* The kind and amount of experience in teaching is important. Experience of the same general type of work as called for in the new assignment is usually worth more than an unrelated type. A supervisor should always have had experience in teaching children. A director should have had a wide range of experience, varying, if possible, from the club, settlement, and school to the college. This experience, to be most valuable, must have been successful. The test here is whether anything worth while in the experience was accomplished. It is needless to say that allowance must be made for political interference in certain situations. The teacher must invariably have had experience in the activity he attempts to teach. The good performer is not necessarily a good teacher, but the teacher should always be able to do what he attempts to teach. There may be exceptions to this statement, of course. The custom, however, of turning over the coaching of the boys' football team to the science teacher or the girls' basketball team to the language teacher because these teachers played these games at one time is to be condemned. The teacher of physical education should be trained, should know the problems, and should be responsible for them.

3. *Personality.* It has often been said that teachers are born, not made. Teaching requires imagination, facility in seeing relationships, and qualities of leadership that appear inborn. The well administered school of physical education does succeed in training teachers with attractive personal equipment by its emphasis on elements that bring out and enforce personality. These elements should be considered:

a. Ideals. The point of view of the teacher is important. What are his ideals? Does he have

vision of a training that seeks to help in moulding better men and women or does he aim at physical values only? Has the teacher an attitude of service in an ideal field for the development of character or are the usual standards of the money mart controlling? The board of education or board of trustees concerned with choosing a teacher should be interested in the kind of ideals fostered by the institution that served as alma mater of the graduate in question. The teacher of physical education more than the teachers of other subjects has a significant opportunity because he is concerned with activities in which the basal elements, feeling and will, are so much a part of his work and also so much a part of human social behavior. Loyalty, willingness to coöperate with others, open-mindedness—these are essential characteristics as expressive of high ideals for teaching (3).

b. Enthusiasm. The teacher of physical education must be enthusiastic over the opportunities and possibilities of the work. He must believe in it and have convictions regarding its worth-whileness that will carry over into action.

c. Force. In this field, as in other fields, force to carry out a program is highly desirable. There must be adaptability and a willingness to coöperate and work with others, but perhaps equally important is force of character that sees the goal and goes toward it. There must be something of the spirit that Percy Haughton brought to the Harvard elevens—a spirit that saw in every scrimmage the possibility of the winning touchdown.

d. Dress. The street dress is important. Pertinent questions are suggested. What does the dress stand for? Does it portray earnestness, enthusiasm, carefulness, alertness? "The apparel oft proclaims

the man" and the meaning of dress should not be lost in the consideration of the elements of personality. The gymnasium costume is equally important. The wearing of rings, bracelets, ear rings, necklaces, elaborate coiffures, unusual and unwarranted color combinations on the part of women teachers is to be condemned. The teacher of physical education must be careful not to appear as a stage beauty or as the main attraction at a side show. For the woman teacher this matter of dress is important because of her probable standing with reference to the other teachers in the school, because of certain accepted and generally respected customs, and because of her influence on the pupils (4).

e. Bearing. The posture of the teacher is extremely important because good posture is so highly valued in school children and because example is very contagious. The bearing of the physical education teacher may be valuable in what it says. It is worth remembering that the body speaks, that we continually judge people's characters by the way they walk, hold the head, and stand. The indirect values flowing out of a position of poise and body adjustment are so real that for the moral sanitation of the spirit, one should fight against maladjustments as one would fight against the plague.

An essential point of view.—In as much as the work of physical education is directed in the minds of many people at achieving health, it is important that the teacher or supervisor should not neglect really important signs of health and vitality in the persons of the children and in the atmosphere and program of the whole school.

A narrow minded assumption that the gymnastic work will bring health is absolutely fatal to progress in this field. The teacher or supervisor needs to be alive to all the factors

entering into and modifying the health status of the school child. Only in so far as the teacher has this appreciation is there any hope for progress; otherwise she starts with an unwarranted assumption that the exercises themselves will give health, strength, and vigor.

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CHAPTER SIX

Supervising and Judging the Work of Physical Education

Until definite standard scales are available for measurement of the progress of students in motor skill and in response to situations having moral and social values, the work of physical education must be judged by the best standards in use to-day. The school principal, college president, or director of physical education will often want to know what are the important points in a good gymnastic lesson or in a good athletic organization, and because the department of physical education is often responsible for certain aspects of the health of children it would seem important to suggest points for consideration in this connection also.

Observation of the children should be directed in the first place to conditions that in modern and progressive schools are cared for by medical inspection. Physical education even when only concerned with the direction of motor activities should encompass in its observation and appreciation all the factors related to health. It is not enough to be familiar only with the hygiene of exercise; the health condition of the school child must be appreciated in all its aspects. When the school is without medical supervision, the observer should bear definite questions in mind and seek to determine answers. General observation is often worthless; definite, detailed looking for par-

ticular things should give information of value. The following questions should be kept in mind:

Health observation.

1. Did you notice in your observation any children whose eyesight and hearing were defective? What signs were there?
2. Did any of the children have colds, sore throat, cough? Did any of them seem tired, sleepy? What indications of these conditions?
3. How many of the children seemed nervous? What indications?
4. Did any of the children show malnutrition? What signs?
5. Were there any with evident physical deformities? Were such children given special consideration? In what ways?
6. Did you notice any conditions which had been neglected and which might be improved by the application of simple hygienic principles? Any conditions which have been provided for by school, city, or state?

Physical education in many schools aims for health ends. Certainly it has, in all schools, possibilities that may be turned into health resources. Frequently, however, the opportunity of achieving any health results is lost due to the lack of sanitary provision in the most simple and elemental things.

It is important to look for the significant points in school sanitation. The following questions would seem suggestive.

School sanitation (1).

1. How was the room in which you observed heated? How ventilated?
2. What is your standard in judging the proper temperature of a schoolroom?

3. Did you notice any difference between the temperature of the classroom and that of the gymnasium?

4. What elements or conditions in the room directly related to the supply of pure air? If conditions were not good, was the ventilating system at fault?

5. What indications did you find as you studied the room, the walls, ceilings, casings, molding, floors, desks, etc., that the persons who built and planned the room had in mind the fact that "the schoolroom should be constructed so that it will afford the least possible harbor for germs and it should permit easy and perfect cleaning"?*

6. As you looked about the building did you see anything which gave you any clue as to the methods of cleaning followed in the building?

7. What can you say of the general location of the building?

8. Are the halls, closets, etc., well lighted, heated, ventilated?

9. Estimate the size of the room and tell relatively whether or not the proper amount of air and space is provided for each child.

The correct observation of a gymnastic lesson involves an appreciation of method and material. For the view point presented in the following questions, one is referred to the preceding chapters. This point of view demands that physical education seek to develop its materials out of the instincts and desires of children and select its material so far as possible from the field that will give functioning types. The observer may therefore consider the following:

* Wood, T. D. "Health and Education." Part I: p. 43. *Ninth Year Book.* National Society for the Study of Education.

Physical education.

1. What was the general outline of the lesson observed?
2. What did you consider the teacher's aim in giving that particular lesson?
3. Did you note any ways in which the lesson might have been the outgrowth of other class or playground interests?
4. Was the matter of discipline prominent?
5. Might the lesson have been given without music? With music? Suggest changes.
6. Might this lesson have been given to children two years older or younger than the ones you observed? Suggest necessary changes and adjustments.
7. Was a dance taught? How was the dance presented? Where was the emphasis placed, on technique or spirit?
8. Did they play a game? Who chose it? Why?
9. Did they play the game or play the rules? (What is the difference?)
10. Did the game have intellectual or moral lessons? Did the teacher use them?
11. Were there gymnastics in the lesson?
12. Observe the movements used. Were they artificial or natural? Were they used properly?
13. Did the teacher use commands or imitation?
14. Did the teacher, if using commands, convey by the use of her voice the manner of action desired?
15. Was the lesson planned or was it just some exercises performed carelessly with no attempt at form?
16. Was there any marching? Was it adapted to the development of the child?

17. Did the children really march? Note postures. Was there slouching and dragging in the class?

18. Did the teacher speak as if she believed what she said? Did she show conviction? Was she enthusiastic, vital?

19. Were the children interested and happy?

20. Were the children sorry when the period closed?

The questions on health, sanitation, and physical education relate to an observation that seeks to sharpen the appreciation by the teacher or administrator of the health factors in school life on the one hand and to determine on the other, how far the program is adjusted to meet the problems presented. More definitely, the work of physical education in its motor part is to be judged by the needs of the situation. The problems to be considered may be very large classes, inadequate play space and equipment, short periods, and other evidences of school building pathology. However, factors such as these must be considered:

Points in a good gymnastic lesson.—The teacher should be observed for points on costume, appearance, neatness, posture, and facial expression. The lesson itself should present answers to certain definite questions:

1. The parts of the lesson should be purposive. If the problem is to get the class on the floor ready to begin the lesson, the points of order, quickness, and ease should be expected.

2. The class should be dressed to do the kind of work given. If gymnastic costume is not available the work needs careful selection. An illustration of unfitness in this regard is that of the male high school instructor teaching girls dressed for the street to swing on rings.

3. The lesson should be taught with reference to the best use of the available space and equipment.

It is a waste of time to attempt military marching with a large class in a small room.

4. If suited to the existing conditions, the lesson should provide physical activity sufficiently vigorous to induce increased heart and respiratory action. The physiological effects will not be secured by swinging Indian clubs, or by games in which only one runs and the rest of the class stand still, or by dramatic work in which one or two act and the rest look on.

5. Good posture should be maintained throughout. Slouching can never be accepted as satisfactory. If marching is used it should be well done.

6. Is the class taught correct form in types of activity in which "correctness" is known and accepted? Running, for example, illustrates the point. If running is taught, or used, the lesson is to be criticized if correct form is not considered.

7. The lesson should not contain strange and unusual movements that are used for "variety." The exercise taught should have a purpose.

8. The emphasis throughout should be "upward" and not "downward." Unity of response if sought should be attained by means other than stamping with the feet. "Jarring of the body should be reduced to a minimum."*

9. The class should not be held long in strained positions. That physical training is most scientific that does not produce soreness. An exercise to be valuable need not be painful, nor cause discomfort.

10. Breathing exercises should not be used in the lesson. The room or gymnasium dust has been stirred up by the activity and it is decidedly unhy-

* Wood, T. D. "Health and Education." Part I, p. 91. *Ninth Year Book.* National Society for the Study of Education.

gienic to ask for deep respirations at this time. Furthermore, if the activity has been sufficiently vigorous, respirations deep and fast enough to satisfy the respiratory need will go on automatically and if the activity has been light or moderate the respiratory center will set the proper respiratory rate that the body needs at that time. Respiratory exercises as usually taught are unscientific, unhygienic, and unwise.* They should not be used.

11. If the class is to stay in the schoolroom or return from the gymnasium for class work, quieting exercises of a slow-leg type should end the lesson.

12. The more the material of the lesson correlates with the play life of the pupil or functions directly in school or life, the more valuable it may be considered. Movements that have no mental content whatsoever are of less value.

Points in a good athletic organization.—There are various types of organizations. A certain school on Long Island, New York, induces professional athletes to attend in order to "turn out" a good football team. The mass of the students are neglected. The Andover plan as described elsewhere (2) presents a different type. A judgment of an athletic organization would be based upon the answers secured from questions of the following kind:

1. What percentage of the school does the athletic organization reach? Reilly** sets 80 per cent as the minimum to be allowed. An athletic organization is not efficient until it engages every pupil in its activities. Athletics for all is the test to apply.

2. A minimum amount of time should be three hours a week. Some individuals give more. Certainly an hour three times a week should be minimum for

* NOTE.—For a full discussion of breathing exercises see Williams, Jesse Feiring. *Personal Hygiene Applied.* W. B. Saunders Company, 1922.

** Reilly, Frederick. *New Rational Athletics.* D. C. Heath & Co., New York.

all. This minimum time would allow one to achieve results in one game that would get the participant above the novice class. One of the purposes of athletics is to learn to play a game well enough to enjoy it.

3. The results flowing out of the athletic organization should be:

a. Game education. Skill and coördination that represent motor education. This, as Saleeby (3) suggests, is important.

b. Biologic strength. This will come because of the big muscle activities present in all athletic games. Whether this result will occur depends upon the emphasis placed upon specialization. Certainly college athletics at times leave the athlete a physical wreck. The final test to be applied to the work is whether in the main it is conducive to the improvement of the biologic strength of the great majority of the students. If the few athletes of the school are highly trained and the mass of students constitute merely the *entourage* of a victorious team, then certainly the organization ranks low. On the other hand, an occasional illustration of overspecialization, or sudden death from athletics does not mean that the entire scheme is bad. It may suggest the need for better supervision, more medical examination and less physical examination, or anything but complete condemnation of athletics. Biologic strength is so important an element in individual as well as national life that anything contributing to this value should have its day in court and not be judged too quickly. In any case, it is of little importance to pass judgment; it is far more important to understand the values, the dangers, the good points, the weaknesses, and shape the administrative action to its proper end.

c. Social values. The pursuit of athletics should result in a wholesome training of the feeling and will. Coöperation, self-sacrifice, self-control, fair play, hard play, and team play should come and, if well fixed, they will give favorable attitudes on questions arising in school or after school days. Whether or not such traditions and attitudes develop depends largely upon the quality of the instructing staff.

Points in a good dancing lesson.—Some of the points of administration indicated in points on a good gymnastic lesson would apply here. It remains to suggest values of intrinsic relationship to the dance, referred to at length elsewhere.*

1. The dancing should not develop self-consciousness. The dancer should express the spirit of the dance and not do acrobatic technique.
2. So-called "aesthetic" dancing is less valuable than folk, national, or natural dancing. The application of the dance in a festival or dramatic play is a good test of its functional value.
3. In ensemble dancing the general effect should be characterized by harmony, rhythm, and expression without expecting uniformity in the manner of expression.
4. The James-Lange theory of the emotions sets a standard for dancing that should be secured. Motion and emotion occur simultaneously. The spirit of the dance is very inportant. The forms selected for expression should be chosen carefully (4).
5. The music should be of a type that would cultivate good taste in musical composition. The cheap, tawdry, musical comedy type should not be used.

* Williams, Jesse Feiring. "The Education of the Emotions Through Physical Education." *Teachers College Record.* May, 1920.

6. Forms of social dancing should be expressive of good taste, appreciation of accepted customs regarding love-making, and without the suggestive positions and movements of romantic art. Social dancing is often erotic because it is essentially related to love-making between the sexes. It needs good standards. These standards will be good if they protect the young from that liberty between the sexes that so often means license, if they lessen close body contact and other forms of eroticism, and if they are susceptible to interpretation and afford a range for the imitativeness that is so closely interwoven with rhythmic movement. If they do this, then physical and mental relaxation, aesthetic expression not aiming at material goals, and wholesome social relations between the sexes may readily result (5).

Points in a good departmental organization.—A well-rounded department will not deal in specialties, will not ride hobbies, and will not be carried away by new "systems" suddenly brought forward. There will be provided in such an organization the following:

1. Adequate facilities for corrective gymnastics.
2. Opportunity for and leadership in games best suited to the groups concerned.
3. Dancing, especially of the folk, national, gymnastic, athletic, and natural types.
4. Dramatics, especially in the festival and pageant form using pantomime and the arts of motor expression freely.
5. Athletics of the intramural and interschool type in extensive fashion.
6. Gymnastics modified and offered in response to the need that may exist to supply activity of a

motor kind when the above provisions are not available or adequate.

7. Swimming and life-saving.

8. Recreational clubs enlisting large numbers in extra-curricular activities.

9. Correlation with other motor activities in which the boy or girl may be interested, such as school gardens, Boy and Girl Scouts, Y. M. C. A., Y. W. C. A., and other organizations.

10. Accurate and complete data on the physical condition and development of the children. Studies should be made to determine the relative value of different programs and procedures. To effect these things it is important to provide means, both in personnel and in funds. No well organized department should be without research on its problems of training and caring for the human body.

Need for scoring standards.—There is a real need for approved scoring standards by which a lesson in physical education may be measured in terms of educational values for the child and in terms of the effectiveness of teaching method. Nothing of this kind is at present available. The work in the grades is usually conducted by the classroom teacher who has had little or no training and frequently shows little interest in the work. A definite scoring method would help her to improve her instruction. As a suggestion of the need for scoring methods and a possible direction that such procedure should take, the author has directed Mr. George Stubbs* in the preparation of the following outline. It is very incomplete but is offered here for stimulation to effort in this direction.

*NOTE.—This work by Mr. Stubbs is part of a physical education practicum at Teachers College.

SOME STANDARDS TO BE USED BY THE SUPERVISOR IN JUDGING THE QUALITY OF INSTRUCTION IN PHYSICAL EDUCATION IN THE FIRST FOUR GRADES OF THE ELEMENTARY SCHOOL.

Motivating

1. The activities adaptable for free play by the children without supervision were: Throwing——Climbing——Hanging——Running——Swinging——. Score each 10. Total score.. 60
2. The progression had the following instinctive basis:
   Dramatizing..yes——no—— Jumping and
   Running.....yes——no—— leaping.....yes——no——
   Climbing.....yes——no—— Catching and
   throwing....yes——no——
   Score each 10. Total score.. 50
3. The pupils chose the activity to be used in the following instances: 1——2——3——4——5——6——7——8——9——10—— Score each 5. Total score 50
4. The teacher helped focus interest and attention by:
   a playing with the children.....yes——no——score (*a*) 40
   b promise of future rewards.....yes——no——score (*b*) 10
   Total score 50
5. The teacher suggested life relationships by:
   a introducing materials requiring outside preparation.....yes——no——score (*a*) 30
   b explanation.....yes——no——score (*b*) 10
   Total score 40

Total on motivating 250

Planning

1. The physical training activities required pupil preparation outside the classroom by:
   a preparation in other classes....yes——no——score (*a*) 30
   b observing animals and people..yes——no——score (*b*) 30
   c asking questions of people.....yes——no——score (*c*) 30
   d group conference.....yes——no——score (*d*) 30
   e reading.....yes——no——score (*e*) 30
   Total score 150
2. While the class was planning an activity of their own the teacher led the group to:
   a decide part each child should play.....yes——no——score (*a*) 25
   b things to be included.....yes——no——score (*b*) 25
   c organization of steps.....yes——no——score (*c*) 25
   d where to go for help.....yes——no——score (*d*) 25
   Total score 100

Total on planning 250

Executing

1. The fundamental activities engaged in were:
   - *a* dramatic and singing games....yes——no——score (*a*) 25
   - *b* dances.....yes——no——score (*b*) 25
   - *c* games.....yes——no——score (*c*) 25
   - *d* formal exercises.....yes——no——score (*d*) 5

   Total score 80

2. In teaching a motor activity the teacher:
   - *a* dwelt on positive points.....yes——no——score (*a*) 25
   - *b* used suggestion and imitation..yes——no——score (*b*) 10
   - *c* used explanation.....yes——no——score (*c*) 10

   Total score 45

3. In conducting the lesson the teacher:
   - *a* secured participation by the entire class.....yes——no——score (*a*) 75
   - *b* used activities giving physiological values.....yes——no——score (*b*) 25
   - *c* led the class to be ready for dismissal.....yes——no——score (*c*) 25

   Total score 125

Total on executing 250

Judging and Testing

1. The teacner encouraged pupil judgments by:
   - *a* asking group and individual judgments on worth of participation.....yes——no——score (*a*) 25
   - *b* questioning group and individuals how best to do certain things.yes——no——score (*b*) 25

   Total score 50

2. The teacher tried to raise the children's standards of action by:
   - *a* praising good participation....yes——no——score (*a*) 10
   - *b* calling attention to poor participation.....yes——no——score (*b*) 5
   - *c* noticing good and poor sportsmanship.....yes——no——score (*c*) 10
   - *d* carrying out threats of discipline.....yes——no——score (*d*) 5
   - *e* exhibiting good sportsmanship herself when playing with the children.....yes——no——score (*e*) 30
   - *f* insisting on attention to business in hand.....yes——no——score (*f*) 20
   - *g* personal influence in her own dress.....yes——no——score (*g*) 20

   Total score 100

3. The children's standards of play were illustrated as a class by:
   a being quiet while teacher talks. . yes——no——score (*a*) 25
   b respecting decision of umpire. . . yes——no——score (*b*) 25
   c keeping rules of the game on entering and leaving the room. . yes——no——score (*c*) 25
   d prompt attention to teacher's whistle or other signal. . . . . yes——no——score (*d*) 25

Total score 100

Total judging and testing 250

Total possible score on all four procedures 1000

The values to the different elements in the standards proposed have been assigned arbitrarily. What is needed now is a rating based upon the "judgments of worth" by hundreds of people in physical education. The author would like to receive criticisms of the standards proposed, and a rating of the different events to total 1000 points.

With a standard rating card it would be possible to mark with some fairness and accuracy the work of a teacher of physical education. Supervision could be fairly exact. Probably any rating less than 500 points would be unsatisfactory; between 600 and 700 would be fair; 700–800 would be good; 800–900 very good and 900–1000 excellent.

Present procedure in supervision.—The problem has been to help the teacher and to this end two methods have been used.

1. *Conference and instruction.* The plan usually followed is to arrange for regular (usually monthly) meetings at which the material and methods of instruction are taught to the group. It would always be helpful to give them definite, detailed, written instructions in features of the work to be emphasized in the future or in which their instruction in the past had been unsatisfactory. The supervisor will be exceedingly wary of destructive criticism and at all times will seek to help the teachers to secure more

exact plans, to evolve clearer conceptions of procedures, and to arouse more interest and enthusiasm.

2. *Suggestion blanks.* A second method of supervision is used at the time of instruction. At this time, the supervisor seeks to give expert, definite advice on the lesson taught. The exigencies of the occasion usually prevent any protracted discussion following the lesson because of the necessities of the teacher's work and the other demands on the supervisor. The following form to be left with the teacher is deficient in many essential points, but it does indicate a method that gives definite concrete suggestions:

DEPARTMENT OF PHYSICAL EDUCATION

SUGGESTION BLANK FOR TEACHERS

(The check marks indicate the parts of the lesson in which there should be improvement.)

SCHOOL..... TEACHER.....

DATE.....GRADE.....SUPERVISOR.....

MARCHING

- Posture
- Rhythm
- Halting
- Evolutions

PRESENTATION OF GYMNASTICS

- Use of voice
  - 1—More force
  - 2—More persuasion
  - 3—More variety in intonation
- Commands given too rapidly (or) slowly
- Commands not clear
- Too much explanation

DANCE INSTRUCTION

- Presentation
  - Place emphasis more on spirit
  - Place emphasis more on technique
  - Give clearer setting for the dance

GAME INSTRUCTION
- Presentation
  - Interpretation of rules
  - Enforcement of rules
  - Class response
  - Spirit
  - Spontaneity
  - Sportsmanship

CORRECTION OF FAULTS

VENTILATION OF THE ROOM

A record of the teacher should be kept and if she has difficulty with the same points again leave with her printed material and references to articles dealing with the matter criticized. Some teachers may need to read articles on sportsmanship. (See references at end of Chapter VIII.)

The following suggestions to supervisors is used by the Department of Physical Training, New York City Public Schools:

DEPARTMENT OF EDUCATION

THE CITY OF NEW YORK

OFFICE OF

THE CITY SUPERINTENDENT OF SCHOOLS

500 PARK AVENUE

General	Has the teacher a syllabus?
	Is she giving the lesson for the week?
	Does she know exercises?
Ventilation	Do monitors open windows?
Temperature	65° to 68° F.
Standing up and taking Distance	Alertness
Posture	Attention to posture at beginning of lesson
	Head—Chest—Weight

Stretching.....Cues and urging for posture
Is good posture obtained?
Individual correction

Breathing.....Face windows
Urging by cues
Are lungs filled? Chest lifted?
Is posture improved?

Marching.....Do pupils know what to do?
Accuracy, military alertness, brisk time

Facing: Lower Grades....Drill on direction
Do the children know right from left?

Other Grades.....Alertness, accuracy
Is facing done sharply and by all in time?
Is good posture maintained?

Formal Exercises.....Does teacher know exercise?
Do pupils know exercise?
Are response commands maintained with proper pause?
Do they become rhythmical?
Does class go ahead of teacher?
Is there speed and accuracy?
Are terminal positions emphasized?
Is good posture obtained? To fullest extent?
Are descriptive urging commands (cues) used?
Are positions which will correct poor posture emphasized?
Does teacher know the purpose of emphasizing these positions?
Are individuals corrected?
Do pupils gain in alertness? In knowledge of exercise?

Whole Lessons.....Is there a tone of pleasure to the lesson, and a pride in good performance?
Has there been sufficient "exercise"?
Has a game been used?
Does teacher understand corrective, hygienic, and educational results of exercise, and how they should be obtained?

Classroom Games.....Are they used in every lesson?
Do all children know them?
Do teachers get results from games, i.e., "exercise," pleasure, and relaxation (hygienic). Sense training, alertness, motor training (educational)?

Two-minute Drill.....Is it given twice in A.M., once in P.M., or between every two periods (unless one of these is devoted to physical training)?
Does teacher know what it is for? (Relief from sitting, corrective, hygienic.)
Does each exercise produce its appropriate result?

Marking.....Are all pupils marked on physical training?
Are all pupils working for improvement?

JESSIE H. BANCROFT,
JOSEPHINE BEIDERHASE, A. K. ALDINGER, M. D.
ABNER P. WAY, Director of Physical Training.
Assistant Directors of Physical Training.

The above contains forty-seven points to be noted.

A card of suggestions recommended by the Director* of Physical Training in the Newark (N. J.) Public Schools offers forty-six points to which the supervisor shall give attention. Both cards would seem to be exhaustive and yet they do not provide for observation of the essential physical, mental, social, and moral values in physical education activities. It would appear that physical education should direct its supervision at the larger and more significant values. Certainly such should not be omitted. To notice only the quality of technical exercises is to make supervision less useful and helpful than it might otherwise be. It is important to note, however, that the supervision forms referred to are used in cities where practically all the instruction in physical education is given by grade teachers. It is to be recognized that they are not as capable in this field as specially trained teachers would be. In spite of these handicaps it would appear desirable to note attitudes, appreciations, moral, and

* Warden, R. D. "The Administration of Physical Education in the Public Elementary Schools." *American Physical Education Review.* June, 1911, p. 391.

social values. If such are possible in the lessons presented, they can be worked for by grade teachers and can be observed by supervisors.

State systems of physical education are conducted by means of inspectors who report to the chief or general inspector on the school inspected. A form used in New York state is given below:

NEW YORK STATE MILITARY TRAINING COMMISSION
DEPARTMENT OF PHYSICAL TRAINING

Inspector's Report on the City or Village Organization.

City.....Village.....
Superintendent..... .....19...

A. Director of Department. Name.....
   1. Secured professional training at following institutions:
      .....
      .....
   2. Former positions held:
      .....
      .....
   3. Has received temporary or permanent state teacher's license..
   4. Is planning to improve himself by taking summer course at .....19..

B. Instructors employed (including director or supervisor)
   1. Number of instructors employed previous to January, 1916. Men.....Women.....
   2. Number of instructors employed at present time: Men.....Women.....Total.....
   3. Number of instructors having temporary.....or permanent.....state teacher's license.

C. Number of schools and distribution of instruction:
   1. Number of secondary schools.....
      a. Number of instructors devoting full time.....
      b. Number of instructors devoting part time.....
   2. Number of elementary schools.....
      a. Number of instructors devoting full time.....
      b. Number of instructors devoting part time.....

Meeting requirements		Elementary schools	Secondary schools	Time per week	
A					
B	A. M.			Elementary–Secondary	
	P. M.				
D	In school hours				
	After school hours				
	Credit for athletics				
E	In school hours				
	After school hours				
Training class for teachers meets					

School visitations. The physical director or an instructor visits each grade in the elementary schools once every.....and gives a model lesson in setting-up drills, gymnastic drills, and games.

Inspector.....

The following issued by the New York State Department of Education touches on some of the difficulties involved in the rural problem.

SUGGESTIONS ON PHYSICAL EDUCATION
for Supervisors, Instructors, Directors, and Teachers

RURAL AND UNGRADED SCHOOLS

General problem.

The problem of arranging the right kind of a program for a rural school is largely one of selection and adaptation. The individual teacher guided by her district superintendent and physical training supervisor should select from the material given for the different grades such of the action stories, games, and exercises as will best suit the needs of the local situation. All the suggestions and articles given in the fore part of this syllabus will be found helpful to the rural teacher

but a few of the special things to be considered are discussed here and some of the principles that govern this selection and adjustment are given.

Things to consider.

I. Children

How many and what ages are they; how far do they walk in getting to school; what work do they have to do before and after school; what instruction have they previously had in exercises, marching, games, etc; how many are new and had nothing last year; how many are abnormal and require special care or modified work; who are the natural leaders?

II. Recitation program

Best time for "B" work. Best time for play periods. "D" work. Possibilities for correlation with other subjects as nature study, project work, etc. What use can be made of the noon hour? In general consider how to lighten and brighten the other school work for the teacher and the children by careful planning of the recreation time.

III. Space available for indoors and outdoors

Arrangement of seats, desks, stove, etc. to make largest possible use of the building. Size, slope, soil, etc. of playground and possibilities of improving it. What other grounds near by may be used when school has inadequate space?

IV. Equipment

What balls, bean bags, etc. are owned by the school for playing games indoors and out; what is available for athletics, jumping pit, etc.; what does the school budget allow for these articles? Plan to secure things most needed a few at a time. Have pupils and parents unite to erect home-made apparatus and provide play equipment.

V. Attitude of community

Are certain parts of the program objected to by trustees or parents (folk dances, etc.)? Are field days and exhibitions popular? How often do parents visit the school?

VI. Coöperative agencies

Is there a parent teacher association? Are there local church clubs or societies, or national organizations conducting play or recreation work? Are Y.M.C.A., Y.W.C.A., Boy Scouts, Red Cross, or other paid social or athletic workers available? Are there any recent college graduates or students now in town who may be made useful?

Grouping.

In most schools of this type all children must take the "B" work together and most of the time must have their "D" work in one group. Two groups should be formed, however, in all but the smallest schools, and games and exercises adapted for older pupils taught to the older children, part of the time, while the younger ones have their work separately. In larger schools three groups will be found best. The

divisions should not be made by grades, but on the basis of age, size, and strength. Group one should include pupils approximately five to seven years of age; Group two, those eight to ten years; Group three, those ten to fourteen years of age.

Leadership.

Older pupils should be trained to direct the group plays and games of the younger group and should be used as leaders while the teacher is busy with older children. This should be a definite part of the training of the older pupils, who should also be given experience in taking charge of the "B" work. Make it an honor at first, using those who have made best progress, but give all a chance sooner or later.

Physical Training "A."
Daily Health Inspection.

Many teachers have correlated the morning health inspection with the pupil health club organization. This plan works very well for at least a part of the year. The rural teachers can find many opportunities to be of help in teaching health habits to an entire family by tactful use of this daily inspection. As much personal follow-up work as possible should be done and the aid of the district nurse invoked in reaching the more needy cases.

Syllabus "B."
Relief Drills.

Principles governing the selection of the setting up drills, relief drills, and gymnastics (formal and informal).

For rural children teachers should select and use mainly the exercises that refresh and relieve the tired muscles, that bring about increased agility, improve posture, and train in accurate and quick response to a spoken command. Muscle building is of secondary importance. These exercises should therefore be:

1. Simple; not too hard for the younger children.
2. Definite and exact; not liable to be done incorrectly.
3. Suited to boys and girls at the same time.
4. Corrective; to counteract effect of poor seating.
5. Vigorous enough to quicken circulation, refresh the brain, and "create a demand" for more air in the lungs.
6. Interesting; changed before becoming monotonous.
7. Joyous at times.
8. Movements related to normal activities of daily life.
9. Exercises such as will tend to overcome awkwardness.
10. Develop ideal of habitual good posture.
11. Teach correct walking and marching.
12. Develop sense of rhythm.

Note—"A," "B," "C," refer to sections of work in the New York State Syllabus.

Principles in supervision of physical education.—Different methods of supervision have been indicated; desirable and undesirable standards have been suggested. It is proposed to state the following as principles for guidance of supervisors in physical education.

1. The supervisor and teacher must coöperate. It is the business of the supervisor to bring about a coöperative basis for all the work in physical education. Because of the wide difference in training between the grade teacher and the supervisor of physical education, the problem of coöperation in this case is exceedingly difficult. When the physical education period is conducted by a special teacher, a basis of coöperation is more readily laid.

Regardless of the difficulties, there must be coöperation. To this end, certain things contribute:

a. Common knowledge concerning the work of the school, its aims, and purposes.

b. Common knowledge and sympathetic appreciation concerning the functions of a school, the characteristics and problems of children, the relations existing between pupil, teacher, and supervisor.

c. Common knowledge of the special interests of both teacher and supervisor, with understanding of the relation of special interests to the end in view.

2. The supervisor in coöperation with the principal and grade teachers should have a workable plan for the organization and supervision of play at recess, for interclass, intergroup and interclub activities. The use of athletic tests, field meets, games, picnics, pageants, and festivals will be featured in all after school activities. To arrange for such group activities is of first importance for a supervisor.

3. The supervisor should direct the teaching of the grade teacher in relation to the program of physical education, and give opportunity for observation of good teaching. It is peculiarly important in the more systematic work to lead the grade teacher to take an active part in the program.

4. The supervisor should give help and criticism that will be constructive whenever possible. Often conferences will be arranged for all the teachers in a school to the end that particular points in the program may be made clear and carried out.

5. The supervisor should lay the basis for co-operative teaching by making the teacher feel that initiative shall not be penalized. Instead, freedom of action in carrying out the prescribed program shall be rewarded by the most thorough and effective help that seeks to work out the teacher's ideas. The stupid following of routine steps in a syllabus shall not be demanded, except in those cases where liberty is not used intelligently.

6. The supervisor should be informed of the health status of the children in the school, should know the general and special developmental problems, and should direct all efforts loyally in harmony with other health forces in the school to secure the most effective and most efficient health care possible.

7. The supervisor should avoid mere inspection. It is important that for each school there shall exist a program toward the realization of which there will be constant effort. Too frequently, schools on the card of the supervisor mean mere inspection. This is to be avoided.

8. The supervisor in directing the work of special teachers of physical education should aim to promote initiative and seek through conferences and discus-

sions of type lessons and other parts of the program to secure improvement in some lines and modification in others. The purpose of supervision is essentially to help teachers do better with supervision what they would do less well without supervision. In no sense, is the supervisor to act the rôle of policeman or inspector. The personality, judgment, intelligence, and training of the teacher always shall be recognized to the end that the best that the teacher has to give will be utilized under the most helpful conditions to secure for boys and girls the largest opportunities for the development of desirable physical, mental, and moral qualities.

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CHAPTER SEVEN

Administration of the Gymnasium, Pool, and Playground

Importance of good equipment.—There is a tendency to overemphasize intellectual development and "the acquirement of recorded knowledge" and its result is pictorially represented by the physical condition of school children. Efforts are made to provide for the physical development in the life of the child, but their scope is primitive, unsatisfying, unworthy. The tag end of the curriculum is given to physical education and hygiene; the basement or sand lot is its home too often. It is nothing short of criminal that the most important department dealing with the health of the child is usually housed in the basement. A beautiful high school in a western city has accommodations for 2,590 pupils, and inadequately provides two narrow gymnasia (28′ x 67′) in the basement for the boys and girls. The gymnasium is too often assigned to an odd space left after provision has been made for beautiful study rooms where the child may sit and think. Dear, sweet, growing childhood, these are plans for your welfare! Very little is known of your desires, and little appreciation is given to your longings to jump and run and tussle with your mates. Prime factoring is essential, but what of the need of the child to express itself in physical activity! What of games!

Could a race of Greeks have been developed in a cellar? Could the laurel and bay have crowned one who sat at a desk all day except for two three-minute periods of

setting up exercises? Surely it is not without some fear that one contemplates the effect of concentrated tabulated exercises prescribed by an anatomist and administered in a cellar. Greek education produced philosophers, scientists, rare thinkers, beautiful bodies and spirits; modern education is producing too often nerveless, diseased, and weakened children. The child, and adult as well, will never escape the need for exercise; it cannot be satisfied in the traditional exercising room.

Use of the equipment by boys and girls.—Gymnasia, pools, and athletic fields were provided at first to serve boys only. To-day in many schools and colleges facilities are being made available for girls also. This is as it should be. It is important to note, however, that in many places the boys monopolize existing equipment and there is no effort to provide facilities for girls in indoor and outdoor work. This tendency cannot be too strongly criticized. The present interest of girls in athletic sports, swimming, and all forms of physical education challenges every administrator in this field to meet fairly and justly the proposal for girls' activities. Adjustments can be made, by part time arrangements, until separate equipment is available. It is hardly necessary to state that careful supervision is essential when both sexes use the same indoor equipment.

Administration of the gymnasium.—The provision of gymnasium, pool, or playground does not automatically secure the health and happiness of those who use the facilities; these treasures, in part, depend upon the administration of the plant. The administration of a gymnasium is easy or difficult depending upon its arrangement. It would seem important to point out good features that relate to efficiency in administration.

The entrance to any part of the building except visitors' gallery and offices should be through locker rooms. From

here those using the building can go to gymnasium floor, pool, showers, or toilets. There should be an entrance to the gymnasium floor direct for use in assembly of crowds for other than gymnastic purposes—at all other times it should be closed and entrance permitted only through locker rooms.

The situation of the director's office is very important. It should be in connection with the anthropometric or examining room and gymnasium floor. The examining room should connect directly with the locker rooms, so that individuals may readily be examined without providing dressing rooms in the examiner's office. The visitors' gallery should have a separate entrance, not connected either with the gymnasium floor or locker room. Entrance to the running track should be made easily from the gymnasium floor.

In high schools for boys and girls, the double gymnasium is advisable, and in large schools necessary. There should be distinct separation of locker rooms and bath. There should be separate offices for the man and woman director. There should be a rest room in connection with the girls' gymnasium.

The locker room.—Whenever possible without losing the contact with the gymnasium and examining room, the director's office should be placed to give a clear view of the locker room. This supervision is desirable. Often it is not possible because the gymnasium and locker room are on different floors. In any case the locker room should be so situated that supervision by a custodian is possible.

It is agreed by experts that successful administration of the gymnasium and pool is closely associated with the control that can be exercised over the locker room. The locker room is the key to the gymnasium. It must be situated to connect directly with gymnasium, showers,

pool, examining room, or toilets. The usual arrangement is to provide a locker for each student in the school. When a student has a class in the gymnasium, he goes to the locker room, places his street clothes in the locker, and puts on the gymnasium suit. On leaving the gymnasium the suit is left in the locker. Very often these gymnasium suits become wholly unfit to wear, the odor in the locker room becomes offensive, and the suit serves as a source of infection following slight skin injuries. To eradicate these conditions, there have developed new ways of handling the suits and controlling the use of lockers. One of these is the "Kansas City Locker System." It provides as many lockers as the largest number in any of the classes; enough fibre boxes to accommodate all of the students who use the physical education department. These boxes are stored on steel trucks; the boxes for girls are 13″ x 13″ x 8″, and for boys 13″ x 9″ x 8″. Two keyboards are provided on which are hung the tagged keys. Each key has a safety pin attached for fastening to the gymnasium suit. In addition, there are one combination washer and wringer, one tumbler drier, one table, four canvas laundry trucks, one marker machine. The student, on going to the physical education department, presents his card on which is stamped his box number, and receives his key and box containing suit, clean towel, and small, half-ounce bar of soap. He then goes to the dressing room and puts on his gymnasium suit, leaving his street suit in the locker, locks the locker, and pins the key to his gymnasium belt. The process is reversed when he returns. The soiled gymnasium suit is washed and dried and placed in the proper box. It is usually not possible to provide clean suits for each class session. It may not be desirable. Certainly, the effort to combat disease germs is very laudable, but such procedures may be overemphasized.

The towels are washed every time they are used. The dressing room for girls is arranged in alcoves, but they receive their boxes in the same way.

Another system devised to lower the cost of installation, economize space, and make for cleanliness is the so-called "Box Locker Plan." The cost of maintenance in this plan would be less. Both of these plans are objectionable in that they leave nothing to the initiative of the pupil. They are machine-like. In many schools provided with the old locker system, sanitary values could be preserved by combining with the physical work instruction in personal hygiene and regular inspection of suits and towels. Students with dirty suits or dirty towels in their possession on inspection should be educated along sanitary lines by the proper administrative officer.

One hundred dressing booths two feet ten inches by four feet should be supplied. This gives booths for two classes of fifty girls each, one coming to the gymnasium and the other leaving it. In gymnasiums where girls and boys alternate in its use, or where the gymnasium is not used continuously, fifty dressing booths would be sufficient. Again, it is possible to reduce the number of dressing booths to fifty by having one girl dress in a booth containing the clothes of a girl on the gymnasium floor.*

An excellent locker arrangement has been worked out at Noyes Gymnasium, University of Chicago.

Locker records.—In colleges and universities it is customary to include in the fee paid at registration time, a charge for the use of the gymnasium. This usually includes the use of lockers. In schools lockers are usually free. In assigning lockers, a deposit of twenty-five or fifty cents is required for the key or lock. If the locker has a combination lock, no deposit is necessary. No locker should be assigned unless evidence is presented of

* *Physical Education in Secondary Schools.* Bureau of Education. Department of Interior, Washington, D. C. (Bulletin No. 50, 1917).

the individual's standing in the institution, as a pupil or as a student able to show the bursar's receipt for fees paid. If locker privilege includes use of the pool, approval of physical condition by the school physician or director of physical education should be required.

With these conditions satisfied the clerk may go ahead with the assignment of the locker. "If combination locks are used there should be first, a numerical file of the company's combination cards; second, a file including the numerical file of lockers with lock numbers and combinations, the name of the locker holder——." *

If keys are issued, the numerical file of lockers should be placed on cards arranged in file or on ruled paper or in a book and the name of the holder written after the number. For looking up locker numbers it is convenient to arrange the names in alphabetical groups: thus, if four hundred lockers are available, use the numbers from 1 to 50 for names beginning with A, B, C; 51 to 100 for D, E, F; 101 to 150 for G, H, I; 151 to 200 for J, K, L; 201 to 250 for M, N, O; 251 to 300 for P, Q, R; 301 to 350 for S, T, U; and 351 to 400 for V, W, X, Y, Z. If it is necessary to place a name in another group because all the lockers in the original are assigned, this may easily be indicated by check marks in front of the number.

The money received from deposits for locker keys should be placed in a safe and should not be spent. If more than one hundred dollars is received, and if the student body is not rapidly changing it will be found desirable to place this money in a saving bank and receive interest for its use during the eight to nine months.

Hygiene of instruction.—It is a common observation that college students who pursue courses in hygiene and

* *Physical Work—Management and Methods.* Association Press. New York, 1913, pp. 69-70.

sanitation and otherwise know the value of cleanliness and bathing, often wear gymnastic costume that is distinctly dirty. It is a very interesting sidelight on the health aims of physical education that frequently children are exercised in dirty, dark, and poorly ventilated gymnasia with no opportunity for proper care of the body after the exercise period. Therefore an adequate administration of physical education will provide means for securing the full health of hygienic benefits accruing from the activity. It is important to indicate the points that should receive consideration, whenever possible, in the gymnasium, pool, and playground.

1. *Showers.* The need for bathing in the public schools is so great that some provision should be made to secure a minimum requirement. It would seem possible to arrange for classes on certain days, or smaller groups to bathe after the gymnasium or play period. The advantages (2) are very great and the opportunity to help develop health habits in this respect should not be lost.

The bath is one of the most valuable health measures at the disposal of the physical educator. Large city high schools frequently conduct classes in the gymnasium for an hour and send the pupils back to the classroom without a change of clothing, and with the body warm and perspiring. This is unhygienic, although the class may have been engaged a few minutes before dismissal in "hygienic exercises."

The provision of a period for the use of the shower may easily be made by arranging for a double period and by using part of this time also for instruction in hygiene. The following schedule * shows the possibility in this connection:

* *Physical Education in Secondary Schools.* Bureau of Education, Department of Interior, Washington, D. C. (Bulletin No. 50, 1917).

Sample arrangement of double gymnasium periods in a high school.

SCHEDULE

Group I	15 Hygiene / 15 Undress	Ex. 45	15 Bath	Class 45	Class 45	Class 45	Class 45	Class 45						
Group II	Class 45	15 Hygiene / 15 Undress	Ex. 45	15 Bath	Class 45	Class 45	Class 45	Class 45						
Group III	Class 45	Class 45	15 Hygiene / 15 Undress	Ex. 45	15 Bath	Class 45	Class 45	Class 45						
Group IV	Class 45	Class 45	Class 45	15 Hygiene / 15 Undress	Ex. 45	15 Bath	Class 45	Class 45						
Group V	Class 45	Class 45	Class 45	Class 45	15 Hygiene / 15 Undress	Ex 45	15 Bath	Class 45						
Group VI	Class 45	Class 45	Class 45	Class 45	Class 45	15 Hygiene / 15 Undress	Ex 45	15 Bath						
Group VII	Class 45	Class 45	Class 45	Class 45	Class 45	Class 45	15 Hygiene / 15 Undress	Ex 45	15 Bath					

This schedule provides for seven classes of fifty pupils each; that is, theoretically three hundred and fifty pupils per day per gymnasium, or eight hundred and seventy-five different pupils on the basis of two double periods per week for each pupil. This arrangement uses the gymnasium continuously and allows for alternation of two teachers in instruction in hygiene, physical education practice, and supervision of the bathing. Three hours of instruction during the school day, plus two hours on the playground and in the gymnasium or pool after school, should be the maximum requirement for one teacher. The remainder of the day is needed for administration and the keeping up of equipment, records, etc.

College classes provide a time allotment for showers. Twenty minutes is usually given for girls and fifteen minutes for boys. When very large classes are to be cared for and when facilities are limited, careful organization and supervision can overcome the handicaps by using the showers in squads. Central control of the showers can allot a certain number of minutes for each squad. This will do away with the dawdling that so frequently occurs in shower and locker rooms.

The Commission on Reorganization of Secondary Education advises the following plan for showers:

a. For boys—An open room should be used for moral and hygienic reasons. Single showers with individual control will supply five boys each. If multiple showers with central control are provided each shower will supply seven boys. Multiple showers with central control are recommended, as they save time, water, and space. The shower and drying room should contain at least twenty square feet per shower. This gives adequate room for drying in the shower room. The showers should be placed, without enclosing, on the side wall of an open room.

b. For girls—Closed shower booths (3′ 3″ x 3′) should be used. One shower should be provided with individual control for each three girls, or one shower with multiple (central) control for each five girls. Multiple (central) control is recommended where an attendant can regulate all the showers (1).

2. *Showers and swimming in the pool.* Bathing in the school pool is a matter of considerable importance. A report from a city school states:

. . . An outbreak of a contagious skin disease among pupils of the high school has been traced by the medical inspector to the bathing pool in the building. Can you suggest a simple precaution against the pollution of swimming pools?

From an administrative standpoint the pool must be kept clean. The effort to secure this result should be

directed along two lines; one aimed at the water and the tank (the pool), the other at the individual user of the pool (the swimmer).

It remains at this point to consider these two problems:

a. The pool. That the pool water should be kept clean is emphasized by Bunker and Whipple:

> It was found that washing a dirty male hospital patient yielded twenty-five thousand million bacteria; that a smooth skinned "clean" man gave three thousand million as against fourteen thousand million from a hairy skinned individual.
>
> The feet of a boy in the corridor, about to enter the pool, yielded eighty million.

That the pool water can be kept clean and pure is now known, and that the method involves a saving of expense over what was formerly considered necessary, makes its adoption all the more certain.

Arthur M. Crane has set forth the opinion of most hygienists in this particular and recommends the use of hypochlorite of lime with refiltration. In the Proceeding of the American Association for Promoting Hygiene and Public Baths, he says:

> However, it is only fair to point out that while many of the reports from pools where refiltration only is employed indicate high bacteriological efficiency, this cannot reasonably be expected so confidently as if the hypochlorite of lime treatment also were used. While it is quite possible to operate a mechanical filter so as to deliver at the outlet of the filter a water pure to the degree demanded by health authorities for drinking water and a pool could therefore be filled with pure water, yet the first individual entering it would contaminate it; and while the filter could always be operated so that the water would always be pure the full effect of this would be lost so soon as the water mixed with the other water in the pool which had already been contaminated.

Ordinary commercial hypochlorite of lime contains about 30 per cent available chlorine. It is this nascent chlorine which acts to kill the bacteria. One pound of the hypochlorite will treat satisfactorily a hundred-

thousand-gallon pool and since the lime costs only nine cents per pound, the annual bill for this preventive will be only about $17.00. The cost of heating the water in the pool and the cost of the water itself are maintenance charges which refiltration cuts down. Reports show that it takes on an average two tons of coal to heat a hundred-thousand-gallon pool to the temperature usually maintained (70°–75° F.). In addition, the water used is considerable when emptied once or twice a week. In New York City, the rate is $1.00 per thousand cubic feet. To fill a thirty-thousand-gallon pool costs about $4.00. If the pool is filled fresh twice a week it would cost $8.00 for water alone. Considering then the cost of the fuel to heat the water and the cost of the water itself, refiltration is recommended on the basis of economy alone. The pool could be filtered continuously for less than it would cost for a weekly renewal without refiltration. Other methods for purification of the water of the pool are the ultra-violet ray sterilizer (3) and the Bethlehem plan (3). Turbidity in the water or suspended particles renders the ultra-violet ray inefficient for sterilization purposes.

Refiltration and disinfection of the water are considered to-day as standard and mutually interdependent procedures in the sanitary control of swimming pools. The hypochlorite method is the method generally employed. One disadvantage with the hypochlorite has been in its application. If too much is used there is a disagreeable taste to the water and irritating action on the mucous membranes of the eyes and nose; if too little is used the bacterial count is not properly controlled. The only satisfactory method of chlorination is by an automatic control that feeds into the recirculated water a standard amount of liquid chlorine. The cost for liquid chlorine distributed by a chlorinator would amount to about

six cents a day for a fifty-thousand-gallon pool recirculated once daily. The California State Board of Health requires from two to five pounds of liquid chlorine for each million gallons. Whittaker (3) has made extensive experiments with chlorine and advises eight pounds of liquid chlorine to each million gallons of water on the basis of one hundred and twenty-five swimmers a day in a sixty-thousand-gallon pool.

The effectiveness of any method used can only be determined by frequent chemical and bacterial analysis that gives the bacterial content per cubic centimeter and the type of organisms present. In this way information may be obtained regarding the efficiency of any method used and the condition of the filters if filtration is employed. If chlorination is employed, water analysis is the only means of determining its efficiency. If ozone, ultra violet light, or any other method is employed, water analysis will indicate the effectiveness of the procedure.

The following report on the water in one pool employing chlorination and filtration show efficiency at one time and inefficiency at another on this important matter of keeping the water pure. It will be noted that the unsatisfactory reports on January 19 and 22 showed 4700 and 5700 bacteria per cubic centimeter. This indicates that the chlorination is inadequate* and possibly that the filters need overhauling. The report for January 25 was very satisfactory. It is important to determine the type of organisms present with reference to *B. Coli* and *B. Welchii*. Their presence indicates insufficient chlorination.

* *Abstract from California State Department of Health.* Bulletin No. 35, 1919. "As a tentative standard a total bacterial count of 1000 colonies per cubic centimeter on agar incubated at 37.5 C, and a *B. Coli* count of one (1) per cubic centimeter is set for the pool water in any part of the pool."

Dr. J. F. Williams,
Thompson Building,
Teachers College.

Sir:

The following are the results of the bacteriological examination of samples of water taken at the swimming pool, Thompson Building, Teachers College, for week ending January 27, 1920.

Source of Sample	Date of Collection	Bacteria per cc. 37° C.	B. Coli in 0.1	1.0	10cc.	Percent Removal Bacteria
Tap, Raw Water	Jan. 19 2 P.M.	30	0	0	0	
Pool Chlorinated	"	4750	0	0	0	
Tap, Raw Water	Jan. 22. 1.45 P.M.	27	0	0	0	
Pool Chlorinated	"	5700	0	0	0	
Tap, Raw Water	Jan. 25 2 P.M.	30	0	0	0	
Pool Chlorinated	"	150	0	0	0	

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Respectfully
S.J.B.

Another method recently reviewed and set forth by Manheimer* seems to be valuable and should be widely tested. It consists in the use of ozone as a disinfectant. It is apparently efficacious, inexpensive, and has no disagreeable effects upon the water.

* Manheimer, W. A. "The Application of Ozone to the Purification of Swimming Pools." *Public Health Reports*. March 1, 1918. Reprint No. 456. United States Public Health Service.

b. The swimmer. Regarding the cleansing of the body of the swimmer it is important for the supervisor to pass upon the procedure used (4). This point is easily covered in men's pools; it is more difficult in women's pools. In women's pools, proper cleansing of the body will occur, probably, if the equipment conveniently lends itself to the results desired, if the importance and significance of compliance is indicated, and if there is some definite requirement that will insure at least part of the regulations. To care for these three points it will be found helpful to have: (a) soap available either in liquid or powder form in the shower stall; (b) instructions posted in appropriate places showing the method of the administration in keeping the water clean and leading up to a statement of the necessity for individual coöperation in minimizing the chances of contamination; and (c) a rule that all users of the pool must take a shower before using the pool and must not have a swimming suit on when the shower is taken.

A method used in a Detroit high school for girls that solves this third problem is a plan that provides the following: On coming to the pool the pupil is given two bath towels and two safety pins. She takes these to her dressing booth, undresses, and covers the body with the two towels pinned together at their ends over the shoulders. The girl then goes to the shower and while in the shower, the attendant places the swimming suit over the door of the alcove. This plan eliminates the possibility of taking a shower over the swimming suit.

In boys' and men's pools no clothing should be worn. A hot cleansing shower bath with soap should always precede the plunge. In girls' and women's pools, clothing should be sterilized after each plunge, and kept at the natatorium by the attendants. A cleansing shower bath should be insisted upon. From what has been found

valuable in many pools, it is important to specify the following rules and regulations for a swimming pool:

1. Maintain the water in the pool pure and clear by employing refiltration and hypochlorite of lime.
2. Have the pool well lighted by sunlight, if possible, by artificial light if necessary.
3. Have an attendant always on duty when the pool is in use; grant no admission at other times.
4. Prevent persons with any communicable disease from using the pool; examine the heart of every person using the pool.
5. Enforce the cleansing of each bather before entering the pool. This may be accomplished by,
   a. Admittance to pool only through showers.
   b. Suits must be taken off and thrown over shower bath door while in the bath (for women).
6. Allow no unsterilized clothing to be worn in the pool.
7. Do not permit bathers to wear stockings in the pool. Guard against the wearing of undergarments under the bathing suit. Insist that all women bathers shall wear rubber caps.
8. Provide a scum gutter around the pool; prohibit expectoration in the pool.
9. Keep visitors from the walk around the pool. Visitors must stay in the gallery.
10. Prohibit handkerchiefs in the water; allow no cold cream or powder to be put on the face when going into the water; prevent bathers with cuts, vaccinations, corn plasters, or bandages from using the pool.
11. Have a long pole on either side of the pool with which to help bathers who go beyond their depth.
12. Do not have any obstruction in the pool or along the edge of the pool. Do not allow running on the tile approach to the life rail.

3. *Cleanliness and care of the gymnasium.* The gymnasium should be kept clean. This should be interpreted to mean freedom from dust or dirt on floors, walls, apparatus, and windows. Unless the floor is oiled, it should be mopped at least once a week. The oiled floor for the gymnasium is not recommended because of its many disadvantages for games.

One of the finest boys' schools in the East recently completed a splendid gymnasium. The plan in its physical

equipment is ideal; the care is entirely unsatisfactory. The floor of the gymnasium is always covered with dust, the windows are dirty, the locker room odor permeates the entire lower floor, and the showers have rarely if ever been cleaned. The plant is not serving its users in the most helpful way because it has not been cared for.

a. Cleaning floors. The gymnasium floor should be mopped at least once a week. If for any reason it is necessary to permit the use of street shoes on the gymnasium floor, the mopping should be frequent enough to keep the floor free from dust and dirt. In some gymnasia the floor is varnished. Such floors should be cleaned daily with oil-sawdust sweeping.

b. School rooms as gymnasia. Schoolroom floors at times are treated with floor oil to keep down the dust. This is of advantage especially where the gymnastic classes are conducted in the schoolroom. Wallace Manheimer made a study of floor oil as a dust preventive in schoolrooms where physical training classes were conducted. His conclusions are as follows:

1. Bacteriological examinations of the air of four classrooms were made both before and after conducting physical exercises. Two of the rooms had been treated with floor dressing, while two had been untreated. These tests showed:
   a. That there was less dust in the treated than in the untreated rooms even before the floors were disturbed, though the differences were not marked.
   b. That the oil was efficient in causing more than 80 per cent of the dust to adhere to the surface of the floors disturbed by physical exercises.
2. Similar tests made before and after the rooms had been swept indicate an efficiency of over 85 per cent. Thus, the oil is valuable in protecting not only the health of teachers and students, but also that of workmen employed to clean the room.
3. Bacteriological tests made on experimental boards (artificial floors), under controlled conditions, verified the above conclusions and indicated an even higher percentage of efficiency (91- 100 per cent).

4. Wherever the raising of dust from the floor might be injurious to persons, merchandise, etc., the use of floor oil is urged as a simple and efficient preventive.*

c. Testing of apparatus. All suspended apparatus should be tested for safety twice a year. It is often convenient and entirely satisfactory to test at vacation times. Ropes, swings, rings, etc., should be absolutely safe. The test should be made as follows:

(1) Carefully examine the wearing parts for signs of cracks, breaks, or excessive wear.

(2) Test for strength of parts by having two men hang, full weight, on apparatus.

Apparatus should be inspected at regular intervals and tested thoroughly at each vacation time. The following memorandum is illustrative of the kind of instructions that may be needed to secure the proper use of equipment.

INSTRUCTIONS ON USE AND CARE OF APPARATUS IN THE GYMNASIA IN THOMPSON BUILDING

To Instructors in Practice Work:

The proper use and care of gymnastic apparatus is very important. There is no reason at any time for neglect of the generally accepted methods of use. The following improper practices have been observed. They should be discontinued.

1. Tying knots in the long ropes. This destroys the end of the rope and requires complete replacement.
2. Running on the track with street shoes. This breaks the canvas of the track and will destroy the covering.
3. Riding apparatus. The use of buck horse, etc., in this way frequently results in damage to side walls and other apparatus.
4. Kicking balls in the gymnasium. Aside from damage to balls not made for kicking use, the breakage of lamps and windows should not be courted.
5. Dragging mats over floor. The problem of keeping a gymnasium clean and fit for use by women as well as men, by girls as well as boys, is a serious one. The mats are with difficulty kept clean. The practice of dragging the mats over the floor should therefore cease. The proper way to handle the mat is to roll and carry it to the apparatus.

Supervisor.

* Manheimer, W. A. "Floor Oil as a Dust Preventive." *American Physical Education Review*, 1914, pp. 625–631.

d. Care of apparatus. All apparatus should be kept clean. Iron bars rust easily. They can be brightened with emery paper or steel wool. Straps and leather attachments need renewal frequently. Rolling apparatus should be examined to see that casters work properly.

Mats are frequently not cared for as they should be. In order to avoid the dust and dirt that collects on and in mats it is the practice in some gymnasia to paint the mat with an elastic paint. This method is not to be recommended because it does not strike at the immediate cause of the dirty mat, namely the dirty gymnasium floor, and further, it gives a slippery surface to the mat thus rendering it less useful for gymnastic purposes. In addition, the paint in time cracks and comes off in places and the result is distinctly unfavorable.

This problem should be attacked under three heads:

(1) Keep the floor of the gymnasium free from dust and dirt.

(2) Do not drag the mats over the floor. The mats should be rolled and carried to the apparatus and returned in similar fashion to the side of the gymnasium after use.

(3) Clean the mats weekly by sweeping with a stiff broom. During vacations, the mats should be thoroughly cleaned with a vacuum machine.

The construction, installation, and care of the spring board in the pool is very important. Illustrations of and descriptive measurements for the official intercollegiate diving board are given in the Intercollegiate Swimming Guide.*

Cleanliness of the air of the gymnasium is very important. The chief sources of contamination are the dust from the floor and apparatus and the exhalation and perspiration of persons using the gymnasium. Therefore

* *Intercollegiate Swimming Guide.* Spalding's Athletic Library. Group IX. No. 361. American Sports Publishing Company, 21 Warren St., N. Y.

the administrative control should be directed to secure freedom from dust and dirt on the one hand and free circulation on the other.

At the Y. M. C. A. College at Springfield, recirculation of air is used. The chief advantages of this method seem to be a saving in cost of heating the gymnasium in winter. Dr. McCurdy writes, "We have saved about 40 per cent on heat bills, and have had the air purer than outdoor air under country conditions except immediately after a rainstorm."

Proper ventilation of the gymnasium is more often the exception than the general practice. For most gymnasia it will be found satisfactory to ventilate with open windows. Outdoor air is the best air in most cases. It may be given, therefore, as a rule that in summer, spring, and fall, the windows of the gymnasium should be open. They should open at the top and give cross ventilation above the working surface of the floor.

In the winter, unless in very mild climates, it is not desirable to work in a temperature below 55° F. Some would set the minimum at 60° F. Certainly 60° F. is not too high and 55° F. may be low. This applies for classes using the traditional gymnastic costumes. What may be advised under a plan that would provide appropriate clothing for the colder temperatures, must be delayed. It would seem feasible and desirable to conduct winter classes all winter out of doors, using appropriate clothing and closing the period with a change of clothing and the usual shower. Such a plan would have many values.

Standards of cleanliness for the gymnasium should include not only the air, the apparatus, and the building itself, but also the persons using the gymnasium. It is not an unusual observation to see the high school or college youth exercising in clothing that is frankly unclean.

A splendid administrative plan for controlling this factor has been worked out by Dr. Thomas A. Storey, College of the City of New York. The main features of his plan are:

a. Instruction in hygiene
b. Inspection of suits and towels
c. Enforcement of regulations requiring frequent change in clothing and towels.

4. *Towels and soap.* A study of comfort stations by Dr. Armstrong* showed that the use made of washing facilities depend upon the sanitary equipment of the lavatory. In stations supplied with hot water, soap, and towels, a greater number washed their hands than in stations supplied only with cold water.

From an administrative standpoint the director of a gymnasium will secure better coöperation in maintaining good standards of cleanliness by making it convenient and easy to obtain soap and towels.

The distribution of soap for showers and bath may be done easily by installing a soap vending machine. A type put out by the Palm Olive Company sells a cake of Palm Olive soap for one cent. Liquid soap or soap powder may be provided free of cost. A good brand of liquid soap is manufactured by Eli Lily Chemical Company, Indianapolis, Indiana. This soap is comparatively free from irritation. Soap dispensed in powdered form from containers is usually so hard that the waste is considerable and also it lathers with difficulty. Common soap boxes in which users of the gymnasium place their cakes after bathing should not be allowed.

The towel situation may be handled in two ways. One way provides clean towels for the students without charge. This is expensive. The other way provides clean towels

* Armstrong, D. B. *Comfort Stations in New York City.* New York Association for Improving the Condition of the Poor. Publication 80. New York City.

at a small price. In large cities towel concerns will furnish and launder towels at a rate that makes the cost of a clean towel very small. This system was installed at the University of Cincinnati gymnasium. The administrative plan involved the services of the janitor and a clerk in the office. A towel ticket provided for fifteen towels and sold for twenty-five cents. When a student desired a clean towel he returned the soiled one and the janitor punched the ticket when he gave out the towel. A deposit of twenty-five cents is required to cover the charge on the towel given out the first time. The plan offered clean towels to the students at a nominal cost and without expense to the university.

5. *Drinking water.* Clean and palatable drinking water is a necessity in the equipment of the gymnasium and playground; only sanitary fountains should be used (5).

Administration of city recreation.—In larger cities there are usually two or more bodies concerned in the government of recreation. The different methods of control and the reasons favoring each method are presented in a summary by Arthur Williams* of the Playground and Recreation Association. His report follows:

The administration of city recreation is carried on by park boards, school boards, playground and recreation commissions, and other municipal departments and private agencies. In some communities the formulation and execution of the recreation program is in the hands of one agency; in most communities there are many agencies. The present tendency is to coördinate all the recreation activities of the city under one administrative body with legal standing in the community and with adequate funds appropriated by the municipality.

There have been, however, slight differences of opinion as to what municipal department should be entrusted with this work—the school boards, the park board, or a recreation commission.

* Williams, Arthur. *Administrative Phases of Play and Recreation.* Playground and Recreation Association. 1 Madison Ave., New York City.

The school board or board of education is favored by some for the following reasons:

1. The value of play is educational; hence it should be under the control of those who administer the city's education.
2. It already has charge of the physical education of the school children.
3. The educational authorities have a large corps of teachers with the knowledge of education and experience in handling children that is necessary to playground workers.
4. The teacher's personal contact with the children on the playground is beneficial to the school.
5. The character and ideals of the teachers under the school board are on a much higher plane than those of the employees of the park department.

The advocates of the park department's control of recreation point with pride to the results accomplished by the separate park commission of Chicago and the Cincinnati Park Board. The Chicago Commission has a separate taxing power granted it by the legislature and has no legal connection with the city government.* This removes the members of these boards from competition with the other cities' departments when the yearly tax levies are apportioned. Other park boards, when a cut in their appropriation is threatened or actually made, are tempted to make the playground or the recreation phase of their work bear the brunt of the decrease. And the trend of affairs at present is to centralize taxing power.

The Cincinnati Park Board and several others have carried on successful playground work because of the strong boards appointed and the consistent support of the public.

The great majority of recreation workers to-day, how-

* Recently the parks have been taken over by the Board of Education.

ever, feel that because of the varied kinds of activities which it is necessary for an effective administrative body to carry on it is advisable to have a separate body for this work in which can be coördinated all the playground and recreation work of the city, including the supervision of commercial amusements. A few of the arguments advanced by those in favor of this form of administration are:

1. The members of recreation commissions are selected with thought of recreation in mind. Other boards are selected primarily for other purposes and usually are already loaded with other work.
2. The large budget of school boards are constantly being cut and this reduction is likely to be taken from the recently started recreation movement.
3. Thus far the creation of a separate recreation commission has not meant an increase in political influence in recreation work.
4. Because playgrounds are popular it is easier to secure adequate appropriations for recreation in the beginning if the appropriation for playgrounds and recreation is not confused with larger appropriations, including boulevards, industrial education, etc.
5. A separate commission can more readily be held responsible.
6. A recreation commission is more likely to keep the recreation interests prominently before the community.
7. By the creation of a recreation commission it is usually possible to make official the services of important public spirited citizens who have been at the center of the movement in its initial stages. The recreation secretary needs the hearty support of such a group of citizens.
8. A recreation commission, giving representation to the school board, the park board, or other bodies

should enable the city to make effective use of all resources known to these various agencies, making possible a strong united recreation work.

9. A special committee appointed by the Playground and Recreation Association of America to study the question of administration found that the cities having commissions were on the whole better satisfied with this form of administration than cities having other forms of control. Ten out of thirteen commission correspondents favored commissions control. Seven out of thirteen park board writers favored commission control of some form. This committee reported:

> It is fair to conclude that in cities where the interest is greatest, the problems most varied, and the movement furthest developed, the distinct tendency is toward the commission idea,—playground or recreation commissions composed of people having an appreciation of both the park and school ideals, but with a social insight that permits a deeper appreciation of the meaning of leisure from the standpoint of civic righteousness and efficient citizenship and the physical and moral welfare of the race.

Management of playground.—The success of the playground movement has been due to a group of well trained men and women in thorough sympathy with the ideals of play and also to certain well defined principles of management which have grown out of the experience of playground workers. The varied questions of attendance, program, personality of play leader, rules of the playground, have been at times the rock upon which many a playground venture has been wrecked. It is important, therefore, in the management of a playground to be able to give the answers to questions that may vitally relate to management. Thus, if there is a falling off in attendance, the administrator wishes to know the answers to the following questions:

1. Is this decrease due to the narrowness of the play program and a failure to coördinate with other compelling and vital interests in the community?
2. Is the program of activities at fault?
3. Have the rules been so rigid that we have driven people away to freer opportunities, or have the rules been so lax that discontent and dissatisfaction have broken down our groups?
4. Has the personality of the play leaders been of the sort that would encourage or discourage attendance?
5. Is our program of activities known in the community or do we need propaganda?
6. Has the work been indifferent and therefore not worth attention?

The six questions above will be discussed in detail in the following sections:

Community life
Faults in play programs
Rules
Personality for play leadership
Advertising the playground
Quality in playground work

1. *Community life.* The experiments of the social unit organization (6) in the Mohawk section of Cincinnati, Ohio, and Dr. Armstrong's (7) at Framingham, Mass., serve to show that playground work of the stereotyped program that provides only play forms, is not meeting the needs of the community. The recent incorporation of Community Service as an outgrowth of War Camp Community Service, is an effort to provide for the community a richer program than that supplied in the usual playground and recreation center. The work of the program has been concerned with summer playgrounds and evening

recreation centers. It is important to point out that superintendents have not been interested enough in fostering and developing community pageants, singing and drama, neighborhood picnics, parties and entertainments meeting neighborhood needs.*

The Playground (8) suggests the remedy for the narrowness of the program as follows:

> The people of the communities —— having tasted of the joy there is in working together (during the war) for mutual interests and in playing together, are ready for a program which will give them social contacts with their neighbors and with the people from other parts of the community with whom they did not formerly come in touch.

Some of the activities to be added to the usual playground program are

Vacant lot play
Coasting, skating, skiing, and other winter sports
Block parties
Community picnics
Neighborhood dances and parties
Community and special holiday celebrations
Festivals and pageants
Community singing
Choruses
Band concerts
Community opera, drama, art, forums, and recreation houses

2. *Faults in play programs.* Play programs fail because they become too stereotyped and set. Frequently the effort to accomplish some formal health end, or to arouse some social response that is not natural and expressive of the community causes the difficulty. The organization and administration of welfare work during the war gave experiences that

* An excellent little pamphlet, *Comrades in Play*, published by Community Service, Inc., 1 Madison Ave., New York City.

have importance for peace time programs. The recreation department of a city system must coördinate all the facilities of community recreation. It should use swimming pools and gymnasia of Y.M.C.A. and Y.W.C.A., halls of fraternal orders, auditoriums, churches, women's clubs, and civic organizations.

It is a very important part in his work, therefore, to be closely in touch with these agencies, rendering them all the service which a public recreation department can offer, and seeing to it that the facilities of the department are placed at the disposal of private groups.

The program of the playground varies according to many factors. School yards, outdoor playgrounds, roof playgrounds, evening recreation and community centers, recreation piers or boats, public baths, will offer different opportunities. School yard activities will not be so comprehensive in scope as a playground providing for adults' recreation.

A typical play program of a New York City playground follows:

1.00–1.30 Assembly, salute flag, singing, talk by principal
1.30–2.30 Organized games in gymnastics and kindergarten
2.30–3.00 Organized free play
3.00–4.00 Military and gymnastic drills, folk dances, apparatus work
4.00–4.45 Organized team games (basketball, indoor baseball)
4.45–5.15 Athletics
5.15–5.30 Marching, singing, dismissal

Children are sent in groups to the library and game room.

The above program is that of the usual play form. It does not represent all that should be done in an organization awake to community needs and the possibilities of community action. A more comprehensive plan is being developed in Michigan.

A program of the Michigan Community Council Commission as proposed by Miss Nina B. Lamkin, Director of Pageantry and Recreation, and recommended for Highland Park, Detroit, Mich., is suggestive of the newer developments in the field. After a survey of the existing agencies at Highland Park the following program was recommended and adopted.

1. Pending the development and completion of permanent plans to include a recreational building, permanent sectional center, and a system of municipal playgrounds, immediate steps should be taken to provide more adequate facilities for the present needs of the people to include:

a. A recreational field for the coming summer which shall be provided with—

(1) A baseball diamond
(2) Tennis courts
(3) Basketball court
(4) Volley ball court
(5) Space for group games and athletics

b. A number of smaller recreation fields or neighborhood playgrounds, distributed to serve districts of six or eight blocks.

c. Further use of school buildings for evening clubs, parties, etc., or the use of other buildings that could be made available as community meeting places for various activities.

d. The adequate supervision of all such places which are made available for recreation purposes in order that the best results may be realized.

e. This supervision to be in the hands of well equipped persons who have the ability to plan and carry out a program of activities which shall reach all age groups and which shall be worth while from the standpoint of health, play, and citizenship.

2. Recommended that immediate action be taken to secure such available properties as are necessary.

3. Recommended that a municipal program be planned which will be in coöperation with the schools of Highland Park, the Y. M. C. A., and the Ford Motor Company.

4. Recommended that funds be provided.

5. Recommended that the personnel of this recreation department for the summer of 1920 be:

a. A superintendent of recreation who shall be a man expert who can manage the executive work, who can see the possibilities for expanding the program, and who can definitely guide the steps in the development of the program.

b. A director who shall be a woman expert to carry out definite activities in—

(1) Club work for boys and girls
(2) Club work for factory girls
(3) Dramatics for different age groups, as
    Story telling classes
    Dramatization of stories
    Programs centered around the arts
    One act plays
(4) Musical projects in choruses, orchestra, and band work in coöperation with local musical agencies and led by local leaders.
(5) Bringing together the various group activities into community days, such as
    Festival
    Pageant
    Carnival
    Tournament
(6) Enlarging work already being done by local recreation agencies.

6. Recommended that the small neighborhood playgrounds be equipped at least with a playground box.

7. Recommended that the man and woman expert, conduct leaders' classes in recreation.

8. Recommended that compensation be given local leaders who can take responsibility, this to be a nominal sum but sufficient to make them leaders of volunteer leaders.

9. Recommended for the summer of 1920 the following activities:

Hiking clubs
Rowing clubs
Swimming
Tennis clubs
Volley ball groups
Baseball series
Roller skating
Athletics, etc.
Story telling, dramatization, and short plays, etc., for rainy days

That for the winter season the activities of these groups be continued in such forms as:

Children's dancing parties
Adult dancing parties
Folk dancing for different age groups
Special community programs for the special days, such as
    Hallowe'en
    Thanksgiving
    Christmas

Americanization classes
Sewing classes
Conversational classes
Reading clubs
Forums, etc.
Indoor tournaments in
  Volley ball
  Basketball
  Quoits, etc.
Game evenings
Ice skating and ice games

In planning the program it is essential to know what people want and to provide the channels through which they may find expression in the way that will mean most to them individually. Have a well-rounded program; do not overemphasize dancing to the exclusion of wholesome games and activities. The educational program should include subjects that are vital and in keeping with the spirit of the times. There should be great emphasis on the part of the program which involves cultural interests. The centers should be made as attractive as possible and should be well-lighted and well-advertised. Introduce new features and draw out the talent which is in the people themselves. Secure from outside the best talent available. Emphasize in your centers as in the community activities the things which give people an opportunity to make contacts which they otherwise would not make.

3. *Rules.* The rules may be too rigid or too lax. The following suggested set of rules by Mr. R. L. Quigley, Superintendent of Playgrounds, Fresno, California, is suggestive of good standards in this respect.

1. *Control, management, and upkeep*

Supervisors appointed by the Board of Playground Commissioners will have direct charge of all activities conducted on the playgrounds. Supervisors will receive instructions from and be responsible to the superintendent.

On playgrounds where there is a division of play space, boys and girls must play in their respective spaces only.

A caretaker will on certain days (about every other day) do the necessary cleaning, sweeping, and dusting; said caretaker to report and receive his instructions from the head supervisor of each ground. The supervisor shall see to it that the caretaker

attends to business at all times and reports any neglect of duty to the superintendent. Supervisor should encourage the children to keep the grounds in a neat and tidy condition. All papers and other rubbish should be picked up each evening before leaving.

Permit no fence climbing.

Allow no climbing on buildings.

Allow no tree climbing.

Allow no one to enter buildings or rooms other than those provided for playground use, and then only when a director is in charge.

Do not permit the rough use of furniture or house fixtures.

Do not allow loafing in toilets.

Do not allow vulgar language or the use of tobacco or liquor on grounds.

Have all pencil or chalk writing immediately erased.

Do not permit children on grounds before or after playground hours.

See that all windows, doors, and gates are closed and locked before leaving playground.

Do not lose the keys.

If a window is broken, report same to playground office before leaving the playground; report immediately if break is serious. If window is broken outside of playground hours make a special note of same. Keep a record of all broken windows.

Report immediately to playground office any serious defects in plumbing.

See that all toilets are flushed each night before leaving.

2. *Use of apparatus and supplies*

The proper use of playground apparatus by patrons should be insisted upon by the supervisor.

Do not permit dangerous feats.

Do not permit small children on apparatus other than that which is intended for them.

Show the children how to get on and off the see-saws.

Allow no pushing of each other on giant stride ropes.

Prevent extreme high swinging.

Allow no one to crawl or walk out on gym-frame across pipes.

Permit no running up slide beds; insist on the use of steps.

Insist upon children's taking their turn.

Permit no use of faulty apparatus; report same immediately to office.

Do not permit children to kick volley ball or basketballs; the football is made to kick.

Keep all inflated balls tight and well laced—you will find they will last much longer.

Do not let the balls get wet; it ruins them.

When giving out supplies to children, hold one person responsible and make this same person return this material; then responsibility can be placed in case of loss.

Check up supplies each evening. In case of loss put the matter up to the children in such a way as to convince them that the loss is their loss.

Use and care for supplies as though personally responsible for buying them and paying for losses.

Use of tennis courts will not be permitted in cases where the participants are using shoes with hard heels.

3. *Accidents.*

In case of serious accident on the ground, have injured party removed to a quiet, cool room and make sure there is plenty of fresh air. Notify parents immediately. Call emergency hospital for ambulance. While ambulance is coming see if parents have a family physician they wish to call. See that injured party is made as comfortable as possible. Do not attempt to apply remedy when injury is a case for the physician. Get name and address of the injured party and obtain all information in detail concerning accident; secure names of several witnesses. Make record of same and report immediately to office. The best way to avoid accidents is not to stay too long in any one place, keep eyes and ears open, and attend to business. The first duty is to look after the welfare of the children.

4. *Hours of service*

Regular working hours will be assigned by the superintendent. Supervisors must be on their ground ready for work ten minutes before the gates are opened, and must stay a sufficient length of time after closing to finish all reports, put supplies and materials away and securely lock all windows and doors and gates.

Supervisors must be on time and shall not leave their playground during working hours without permission from office. In case of accident on the ground one of the supervisors if necessary may take injured party home. In this case the co-worker shall take charge of all activities until return of said worker.

In case a leave of absence is desired permission must be obtained from the office.

In case of absence from ground on account of sickness, notify office so that other arrangements may be made.

Supervisors violating these rules subject themselves to a loss of salary or dismissal from the department according to the offense.

5. *Reports and records*

Certain daily records of attendance, activities, etc., must be made on blank furnished for this purpose and turned in to the main office as called for below:

WEEKLY SCHEDULE —Each Saturady for following week
MONTHLY ATTENDANCE—First day of following month
MONTHLY ACTIVITIES —First day of following month
SUPPLIES RECEIVED —First day of following month
INVENTORY —Taken July 1st and August 30th

All reports must be written in ink.

6. *Wearing apparel*

Supervisors while on duty must present a neat and tidy appearance.

Supervisors to make a success of their work must enter into the games and plays with the children. A certain amount of instruction is necessary. To do this properly it will be necessary for the director to wear a special uniform which will permit of strenuous action and at the same time look neat.

Men supervisors shall wear an all gray uniform consisting of soft gray shirt, long gray trousers, and low heel shoes.

4. *Personality for play leadership.* The superintendent or principal must be a leader. All the vital elements in personality that mark the leader are important. Force, spirit of fairness and coöperation, openmindedness, thoroughness, sympathy—these are qualities needed.

The secret of success lies in leadership. The best leaders you can secure as assistants will be none too good for making playground and evening recreation center activities the constructive vital forces they should be. Leaders of recreation centers should be real folks, with the gift of friendliness, who will bring to their work a freshness, a vitality, a knowledge of people and sympathy with them which will vitalize the program. There must be a continual process of education for your workers—institutes and conferences which will keep constantly before them the big purposes of the work as well as the machinery necessary for carrying it on. It is important, too, that volunteer leaders shall be found and trained so that group activities of many kinds may be carried on. Institutes for volunteer leaders have been tried out successfully in a number of cities and in this way volunteer play leaders have been made available for private groups, church parties, and other functions.

A good discussion of the qualities to seek in the recreation or play leader is given in Bulletin 103, *The Administration of an Individual Playground.* Playground and Recreation Association of America, 1 Madison Avenue, New York City.

5. *Advertising the playground.* The world to-day is awake to the value of propaganda. No odious taint should attach to the use of a means that has been turned by some to unscrupulous ends. The advertising channels available should be used. In this connection a quotation from *The Playground* is pertinent:

> The superintendent of recreation and his governing board have a very distinct responsibility in making the work known to the community. This can be done in a number of ways. Posters and newspaper publicity can be used to advantage; superintendents and members of the governing board should present the work at meetings of civic clubs and of all community groups; play demonstration as a means of bringing the work before the community will probably be found more effective than the use of exhibits and charts, though these may, in some instances, be advantageously used.
>
> The most successful way of advertising, however, is by utilizing the human element involved. Do your advertising through the people who come to the centers, through volunteers, and through committees, as for example, through a volunteer group at each center who will stand back of work in their neighborhood and make it known throughout the community.
>
> Private agencies and groups invited to use the facilities at stated times will constitute a good publicity nucleus. Arrange special occasions for women's clubs, civic clubs, and others. Get the ministers to talking about the work from their pulpits and the school people advocating it. Reach the adults through the school children by giving them notices of special events and invitations to take home to their parents. Be on the alert for every opportunity to make people realize what it will mean to them to come together as neighbors.
>
> It is undoubtedly true that in many instances the difficulty of securing adequate municipal appropriation has made it impossible to carry on as broad a program as the need of the community demands or as the recreation department wishes to

put into operation. Unquestionably, more money must be made available. This can be accomplished only by the best possible demonstration of the value of the work with the facilities at hand; by a steady process of education of the city officials whose province it is to determine budgets, and of the citizens of the community. If public opinion is solidly behind the movement, if the citizens really want public recreation, city officials will find it impossible to stand out against the demand.

6. *Quality in playground work.* The character of the work done and the type and quality of the service rendered to the community are related very largely to the leading and assisting force. The director and assistants are the playground. It is, therefore, tremendously important to secure leaders of excellent training, of some vision and imagination, and of real enthusiasm and conviction for the work. With this value in mind Luther H. Gulick once said, "We are organizing people, not activities."

Some years ago, the author was interested in furthering a plan in one of our largest cities to select playground attendants and leaders by an examination in which personality was one of the elements to be passed upon. Considerable opposition to this movement came from the civil service groups as a natural protest against a scheme which in unscrupulous hands could be used in a political machine to advance political adherents or to degrade opponents. Nevertheless, it represents the sort of thing that needs appreciation and, when practicable, recognition in selecting leaders and assistants.

Quality may be determined in part by equipment, finances, or other physical factors, but the most important factor is the human one as represented in the leader and assistants.

NOTE—An admirable little pamphlet, *Layout and Equipment of Playgrounds*, price 30 cents, may be secured from the Playground and Recreation Association of America, 1 Madison Avenue, New York City.

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CHAPTER EIGHT

Athletics

Organization and administration of athletics.—The time has come when athletics in school and college should be organized and conducted as an educational project and not as a sideshow, extra-curricular affair, or student amusement activity. The evils of professionalism, high specialization, and proselytism are only the natural results of a program that is guided by professional rather than educational aims. There is no attempt here to defend play or point out the value of athletics. That they are important and valuable for the child, youth, and adult is acknowledged to-day; the desire at this point is to indicate the type of organization that is required to correct the evils and lead to a program of athletic education for all.

The statement of the educational versus the professional in athletics has been well made by Professor Savage and his view harmonizes so well with the modern tendencies in education that the greater part of one of his extraordinary papers on the subject is given here:

> During the past ten years it has been increasingly borne in upon me that there are two great aspects of our athletic problem, two great tendencies, which I roughly characterize as the professional and the educational. In the early years of college athletics in America, only their recreational, hygienic, and social aspects were recognized. In a surprisingly short time, owing to the innate love of sport and the growing intensity of athletic rivalry on the one hand, and to the conservatism and short-sightedness of educators on the other, we find strong student athletic associations flourishing and the entire control of college ath-

letics vested in these associations. These organizations rapidly acquired great power. Young and inexperienced student managers abused this power and made embarrassing mistakes. The resultant bickerings and recriminations became so tiresome that it was rightly conceived that continuity and experience in management would reduce if not eliminate much misunderstanding and friction. This more efficient management shaped itself into what is now commonly called the graduate managership.

With a business man at the helm, the storms and perils of intercollegiate strife were largely dissipated and the ship of sport for a time sailed smoother seas. College faculties breathed more easily, believing that the threatening clouds of athletic trouble had been dispelled.

But sports well managed grew in popularity both with the students and with the public. The graduate manager was a business man, and with an eye to business, he saw that good gate receipts meant better facilities, more equipment, and the means of attaining better results. Better results to the students, to the alumni, to the graduate manager, and even to the faculty, meant more athletic victories. The business man's business grew. The training table, the training quarters, the return of the star graduates to help coach, the high salaried professional coach, magnificent athletic fields, and imposing stadia were all the more possible by good business methods and by the skill of the graduate manager in exploiting the loyalty of the alumni. But the Athletic Association was not an educational body. The graduate manager was not an educator. He was closer to the alumni than the faculty. His great enterprise assumed such proportions, and its exactions on the time and the thought of the students became so heavy, that scholastic pursuits were considerably interrupted.

Here, with characteristic conservatism, college authorities came forward with a harmless prescription of faculty control,—an advisory athletic committee, composed of some members of the faculty with sporting proclivities, a proportion of real sports from the alumni, and a representation of undergraduates. This committee advised the graduate manager and even did more, but the graduate manager still, for the most part, had his own way. The Athletic Associations have grown into corporations and now hold property worth millions, intercollegiate sport has gradually become overspecialized and commercialized and professionalized. The good name of the student athlete has often been smirched by proselyting and subsidizing, and our controversy of amateurism vs. professionalism has grown ever more insistent. Now, let me ask, can we expect professionalized sport to turn out amateur sportsmen? I believe that college and university presidents and thinking people in general who have the courage to face the situation squarely feel with Ex-President Wilson that there is real danger of the sideshows becoming more important than the main tent.

The facts of the case are that there is little or no justification of the present status of intercollegiate sport as a legitimate interest in an *educational* system. Some of you will say that it needs no educational justification, but with that position I must disagree. Thanks to the influence of this great association, and of the zealous and indefatigable efforts of the friends of good sport working through local conferences, the conditions surrounding intercollegiate sport have improved tremendously in late years, as far as public performances and external conditions are concerned. But we have not gone to the root of the matter. We are industriously pruning and trimming the athletic tree, plucking a leaf here and a diseased blossom there; but we hesitate to lay the axe to the root. With the great educational and moral principles underlying sport and with the question of amateurism I fear we are making little progress.

Now our difficulties in both those respects are largely due to one and the same cause. Under existing conditions promising young athletes in high schools and academies are rounded up by alumni scout and other agencies, they receive inducements of one sort or another, in many cases legitimate and in many other cases such as to prostitute all moral integrity. But whether right or wrong, the athlete is zealously sought after and that because he is an athlete. If possible he is placed under obligations before reaching college, he is even steered to the proper fitting school of the particular college. He thus enters college with the wrong idea of the relative importance of sport and study. Once in college he lives in an athletic atmosphere that is commercialized and professionalized. He joins the freshman squad and his training is begun. Neither time nor expense is spared to fit him "to deliver." He is promoted to the varsity squad. With professional coaches paid enormous salaries for a season's work, with the high salaried trainer and his retinue, with a famous old grad a thousand miles away summoned by telegraph, expenses paid, to show him how to lengthen his punt a couple of yards, with scouts who have watched every game of opposing teams throughout the season, returning for the week prior to meeting this or that opponent and coaching how to meet the particular opponent's play,—with trips involving three or four days' absence from classes, with a week spent at the seashore or mountains away from the classroom—with all these things and countless others, what idea of sport is the student to get? Is it sport or is it business, a pastime or a profession? Is it more important than studies or not? That our student athletes carry themselves as well as they do under these circumstances is a tremendous tribute to the stuff of which they are made. That they are able to do anything with their studies is almost inconceivable, yet here again they acquit themselves surprisingly well. But my contention is that the whole program is fundamentally wrong. The whole scheme is professionalized. Efficiency is developed down to the minutest detail. No captain of industry or corporation board of

directors could map out a plan of campaign and carry it out with greater efficiency. The coaches and managers in our great colleges leave no stone unturned that victories may result. Money is poured out like water. The student players are mere pawns, a band of picked men trained and groomed for the day of the contest. That the boys like this sort of thing and that athletic honors are coveted is neither here nor there.

I maintain that it is because of this system that to-day, in spite of multitudinous rules of eligibility, in spite of gentlemen's agreements, in spite of quasi-faculty control, we still have insistent calls for rule revisions, we still have men actually hired to play football on college teams, we still have men competing four or five years, we still have boys lying about their amateur standing, we still have charges made against the morality of intercollegiate sport.

That our great universities will soon change their methods is doubtful. But eventually reformation if not revolution must come. At the present time the trend is almost entirely in the other direction. Coaches who can "deliver the goods" are getting higher and higher salaries. Unsuccessful coaches must go. One bad season is enough. Or the coaching system is at fault and a new one must be tried. You know the ins and outs of the entire situation. But let me ask you a question. Do the presidents or the faculties or the trustees or the regents have anything to say in these matters? Very little. You may say that the educational authorities should have nothing to do with these matters. I maintain that they should have everything to do with them. As long as the students are in an educational institution, educators should direct and control all the educational influences to which they are subjected, and that too in such a way that the greatest good to the greatest number may result.

In intercollegiate athletics undoubtedly either schedules should be greatly cut down or different teams should be sent into the different games. In the one or two big games which every college always has on its schedule, surely the best team should represent its institution. But on such great days there should be no attempt on the part of the faculty to maintain college appointments. The day should be a holiday for both institutions. The one, both students and faculty, should be the guests of the other. Hospitality both before and after the game should be extended and received. I lay special emphasis on the aftermath, for I think it would accrue greatly to the education of the victors were they to have an opportunity to learn how to comport themselves considerately and as gentlemen after a victory. The round of such a day of pleasure might fittingly end in a great athletic rally with both teams present and the student bodies intermingling as friends. It would probably eliminate many of our troubles if the gate receipts could be done away with and attendance be by student ticket and by invitation only. There is not the slightest reason why a sane athletic

system should not be supported by endowment or by a student athletic fee and athletics be run on a carefully prepared budget. The sport itself would then be running on a strictly amateur basis, and most of our evils would die a natural death.

The professional coaches would undoubtedly give place to men of faculty standing on the staff of the department of physical education. The practice now quite common in the Middle West of hiring the football coach for the entire year is a step in the right direction, but in too many instances the presence of the coach now serves only to increase the stress on football. He is constantly "sizing up" and working with his material for the next season, he has them practice boxing and wrestling through the winter, gives a number of talks on the fine points of the game and in the spring calls them out for unseasonable and senseless "spring practice." "In the spring a young man's fancy lightly turns to thoughts of"—football? Well, hardly!

Another suggestion would be to schedule intercollegiate meets between departments or classes. If intercollegiate games are good for twenty-five players out of five thousand students, why not good for a hundred or five hundred? Doubtless many other and better suggestions could be made, but enough has been said to serve my purpose.

Professor Savage* has presented the situation with courage and clearness. The problems in organization are to be met only when an educational point of view is maintained. This discussion has been made with reference to college athletics because the impetus for a change and the direction of the movement among high schools will be given in this branch, as in others, by the college.**

Extra-curricular activities.—A tendency in modern secondary school administration is to organize all the activities of the school that have not traditionally been or become a part of the curriculum into a program of extra-curricular activities. Included are the school newspaper, annual, glee club, athletics, band, dramatics, art clubs, and other student organizations. This organization aims at providing in the school a recreational director who shall take over the immediate administration of these student activities, for coördination, development, and

* Savage, W. "The Educational versus the Professional in Athletics." *American Physical Education Review.* April, 1915.

** The action of the college presidents of the smaller New England colleges in the spring of 1922, augurs favorable developments.

control. There are advantages to be gained in such a program, but it is held in this connection that play, games, and athletic sports are so vital and necessary for all students that they should be kept in the department of physical training and accorded a decent and respectful acceptance into the curriculum. Every pupil will not play a musical instrument, nor should every one be expected even to attempt to learn the technique of that art; on the contrary, because of the great laboratory provided by games and sports for the training in the feeling and will elements of mind which form the great basal foundation of human social behavior, in addition to their purely physical values, games and athletics for all should be organized as a part of the education that the youth of America are to receive.

Professor Dudley of Vanderbilt University says (1), "The athletic field is one of the greatest laboratories in an institution of learning for developing personal honor, self-control, and courtesy." The school or college that is only concerned with the intellect and is neglectful of the feeling and will is not meeting the need today for training in character and citizenship.

Administrative problems in athletics.—Because the athletic field is the richest field in the school for development of strong characters, and because so many of the evils of athletics are associated with the coaching system, it is important to consider at the very beginning the coach and his selection. No department of physical education, no faculty committee in school or college will measure up to its responsibilities to its own student body at least, if it chooses hastily or with false guides. "The coach has more influence in school or college for good or ill than any other instructor."

Who shall select the coach?—In the early days of athletics in the American college, the coach was chosen by

the athletic association. Later on the influence of alumni, acting through committees on which might be faculty representation, became the dominant force in making the selection. Today the voice of the alumni in this matter is still too strong. They might be permitted to have representation on an athletic committee which is concerned with management and plans for games, but the selection of a coach belongs to the faculty alone, because as Professor Dudley says:

> The coach has more influence in college for good or ill than any other instructor and, therefore, his selection is of the greatest importance. The selection should be made by the faculty, through a committee, after the character of the candidates has been thoroughly investigated. More weight should be given to character than to anything else. He must be a clean man in every way. He must be a firm believer in fair play, honest methods, and amateur sport. There can be no clean sport with an unclean coach. As is the coach so is the coached. We may go further and say, as is the coach, so will be the student body."

Qualifications of a coach.—The qualifications of a coach of football or any of the athletic games, are essentially no different from those to be sought in any other branch of the institution of learning. The instructor in athletics needs to be judged by the standards of character, training, experience, and personality that continue to be recognized when choosing an instructor in English or chemistry or Biblical literature. The importance of selecting carefully the coach is indicated by Headmaster Stearns' picture of the possible undesirable influence that the coach may exert:

> Almost without exception the coach is actuated primarily, if not solely, by the desire to win. And in my experience it makes little difference whether he be an amateur or a professional. His power on the field is unlimited. His influence over the boys he instructs is tremendous. His word is law. To disobey him is to invite ostracism or dismissal from the squad. Often he is vulgar and profane. Sometimes he is brutal. Seldom does he exhibit, on the football field at least, those qualities which are demanded of a gentleman. And yet,

with all these deadly influences at his command, he is allowed the utmost liberty to work upon the plastic characters of our youth. With freedom from all wholesome restraint, he is permitted to sow in fertile soil those tares which in their later growth are bound to choke the intellectual, moral, and spiritual growth of our boys and ruin in advance the expected harvest.

The qualifications of an ideal coach (and there are such coaches) have been so well stated by Dr. Meylan that he is quoted in full on this point:

1. Irreproachable character. This is absolutely essential, because of the tremendous influence that a coach has over college students. Educators recognize that the molding of the character of young men during the impressionable years of undergraduate life is the chief function of a college education. Educators admit further that character is developed mainly through the activities, play, and social relations of everyday life. It is, therefore, of the utmost importance that the college athletic coach be a man of high ideals and unquestionable character, who endeavors to make the sport of which he has charge a source of strength to the institution as a whole and a means of promoting those ends for which a college primarily exists. He must see to it that honorable conduct, fair play, and the students' obligations to the educational standards of the college be not sacrificed in the endeavor to gain athletic victories.

2. Leadership and enthusiasm. The coach must be a natural leader, capable of arousing enthusiasm and winning the respect, confidence, and support of the students.

3. Knowledge of technique and ability to impart his knowledge to others. The ability to teach football, baseball, running, or rowing, is quite a different thing from the ability to perform well in these sports. There are many excellent performers, some good teachers, but very few who combine both qualities. Ability to teach is absolutely essential for a good coach; ability to perform well is desirable, but not essential.

4. Keen powers of observation, and common sense, which implies ability to size up the latent qualities of candidates for teams. This is a rare, but exceedingly valuable qualification. The most successful coaches are known for their ability to discover promising candidates. The story is told of a famous coach who was sitting in a room looking through a window when a student passed by on the street. At a glance, the coach sized up the student as a promising oarsman and called to him to report for the crew. The student developed into an oarsman of exceptional ability.

5. Ability to correlate the condition of the men with the exigencies of practice. The coach must be able to bring the individual athlete to the highest degree of skill with the maximum of speed, strength, and endurance of which he is capable. This is extremely difficult to accomplish because it requires the modification of coaching and training methods to fit the needs of each individual according to his temperament and peculiarities. In the long run, the coach most likely to succeed is the college man who takes up coaching as his life's work, because he is enthusiastically interested in athletics and possesses the necessary qualifications. In order to attract men properly qualified to enter the coaching profession, appointments should be made by the college authorities on the same basis as appointments in other branches of instruction. This policy is advocated by the National Collegiate Athletic Association, and is already in practice in a number of colleges.*

Amateurism and professionalism.—Athletics in school and college are constantly under fire. Criticisms directed toward various aspects of professionalism, undue emphasis on winning games, absorption of students' time are general in all institutions. But athletics will stay, and will contribute just as much or just as little to the education of the youth of the university or school as the wisdom of governing authorities permits. In the first place, it is important to discuss this question of professionalism and its attendant evils not in an academic way but from the standpoint of its causation and its treatment.

1. Professionalism, proselytism, etc., are not bound up with any essential need of athletics but are outgrowths of a failure of school authorities to make athletics a positive, constructive element in education. So long as school and college authorities look upon play and athletics as "evils" to be curbed and "regulated," or as means for "putting the college on the map," just that long will the problems growing out of athletics so conducted remain unsolved. Instead of repression and restriction, there

* Meylan, Geo. L. "Athletic Training." *American Physical Education Review.* April, 1913, p. 217.

must come stimulation and encouragement for the right kind of athletics. One cardinal principle in pedagogy is to overcome abuses and vices by providing an offering and establishing a situation in which the vices cannot exist. The whole question of professionalism in college athletics requires study and understanding. There is great need for a federation of athletic organizations from elementary school to college and athletic club. Such a federation, by guiding all athletic organizations, would set standards, determine policies, hold conferences, restrict and ultimately remove the obnoxious growths of competitive amateur athletics in America. Certain athletic organizations are opposed to such federation. They have special interests, in part political and in part commercial, to protect. But their selfish opposition is limited. When the responsibility of athletics for development of fine types of manhood is recognized by enough leaders, the federation will come.* The bibliography (2–14) at the end of this chapter gives important selected references.

2. Athletic coaching systems are often wrongly judged by their production of victories in intercollegiate or interscholastic games and such judgment leads to:

a. An effort on the part of the coaches to win games. An instructor in English is not judged by the number of Whitmans, Lowells, O. Henrys, or Johnsons he graduates, nor indeed upon the literary quality shown by those who take his courses, but upon his ability to present the elements of his subject and to influence and direct his students in and toward the best standards and expressions of Eng-

* See an article by Fuessle, N. "America's Boss-ridden Athletics," *The Outlook*, April 19, 1922.

lish. If that test were applied to the football coach, he would be judged by his efficiency in presenting the technique of the game (measured in part by victories won) and in the influence he exerted toward the finest expression of the emotions in moments of great emotional play, and the strongest working of will in situations, critical and pregnant with disaster.

b. An effort on the part of coaches to win games by any means. The coach must be more interested in the factors of his work that influence wholesomely the development of fine character than he is in winning the games. "Sport for sport's sake" as a phrase expressive of a point of view that condemns the effort to win games by fair means or foul is entirely satisfactory. Certainly to-day in school or college sport, no program can be sanctioned that requires unfair means for its success.

On the other hand this phrase "sport for sport's sake" is misleading and is used by many to mean all that is feeble and weak in sport. The team or individual should play to win; any other attitude is inconsistent with the best values that flow from the contest. Theodore Roosevelt expressed this dynamic and manly thought in an address to Harvard undergraduates when he said, "I wish to see Harvard win a reasonable proportion of the contests in which it enters, and I should be heartily ashamed of every Harvard athlete who did not spend every ounce there was in him in the effort to win, provided only that he does it in an honorable and manly fashion."

In short, a situation that leads a coach to seek victories at any cost is intolerable and indefensible. But it must be remembered that there is nothing wrong in winning games and no phrase of "sport for

sport's sake" must be interpreted to mean weakness, feebleness, or indifference. "Sport for sport's sake" must not become synonymous with "art for art's sake." The poseur, the dilettante, are as objectionable in sport as in art.

c. An effort to evade scholastic standards. There can never be, even in the most liberal views of what education seeks anything but agreement with the statement that for the pupil in school or the student in college the first consideration is the studies of the program. Any system that permits evasion by the few of the scholastic standards for the many is fundamentally wrong. It follows, therefore, as a corollary that it should not be permitted the student in pursuit of intellectual growth in any school or college to sacrifice the physical foundation of life in pursuit of mental achievements. The athlete must keep up his scholastic standards; the book lover must keep up his physical vigor.

d. An effort to be a success as judged by an athletic association or by students who desire only winning teams. The coach as popularity hunter, as "trimmer" on vital questions of the institution leads to disaster. To seek athletic success only tends to develop special treatment for special athletes, to foster an athletic aristocracy in the school, to neglect those with lesser ability and greater need and to cause lack of coöperation with the general aims and purposes of the school. The attitude that is correct in this connection is that expressed by a professor of physical education in conversation with the dean of the College of Engineering. He said, "I am as interested as you are in training good engineers. I trust we may hold a common ground concerning the foundation around which the technical courses will be built but I am most

anxious for you to appreciate that I am not interested in developing athletes but in developing men."

3. The resolution of the National Collegiate Athletic Association adopted by a unanimous vote by the convention of 1910, sets a standard that strikes in a very definite way at the core of the problem. The resolution follows:

> It is the sense of the National Collegiate Athletic Association that coaching and training be confined to the regular members of the teaching staff employed by the governing board of the institution for the full academic year; and further, that athletics be made a regular department and receive the same consideration and be given equal responsibility, and be held to the same accountability as any other department in the college or university.*

This resolution if put into effect in school and college has within its scope and spirit the solution of the evils in the athletic situation today. There are involved in this resolution as a practicable and successful program of administration certain implications, not the least of which is the selection of the proper person as director of athletics. This resolution recognizes "play as a fundamental determinant in the growth and development of all children and youth in respect to physical organs and their functions, intelligence, and character." It not only looks upon the vigorous fighting games as characteristic of adolescence but also considers their function to be a primary mode of ethical and moral training. Because of these considerations, Professor Ehler** states seven vital implications of this resolution:

> First. Athletics—intercollegiate as well as intramural—to be made an essential part of the system or method of physical education in each institution.

* Dudley, W. L. "The Proper Control of Athletics." *Proceedings of the National Collegiate Athletic Association.* December 27, 1912, Vol. 18, p. 209.

** Ehler, Geo. W. "The Regulation of Intercollegiate Sport." *American Physical Education Review.* April, 1914, Vol. 19, p. 284.

Second. The staff of the department of physical education to include every person having anything to do with any aquatic, gymnastic, or athletic activity conducted in that institution.

Third. The members of that staff to be selected in the same way, and subjected to the same tests of education, training, experience, and instructional efficiency, as other members of the faculty, but in the matters of moral character, personality, and leadership, to be required to measure up to the highest practical standard set by the college professor of the best type.

Fourth. Wherever the athletic instructor does not approximate to the standard, displace him with one who does. Better no athletics at all than training and coaching by a man whose influence is not positively constructive.

Fifth. The athletic director should approximate the college professor of the best type; he should be a member of the faculty committee, and properly its chairman.

Sixth. Positive and aggressive promotion of the ideas and ideals of clean sport by the athletic department among the student body, and, through them, in their home communities, and further, through establishment of relations by the extension method with communities, elementary and secondary schools, and normal schools.

Seventh. The selection, education, and training of college men of the best type to be physical educators, athletic directors, and instructors.

Interscholastic versus intraschool athletics. Intercollegiate versus intramural sport.—The criticisms directed at interscholastic and intercollegiate athletics have been leveled at the practice of overspecialization in training, the selection of a few for the team, the danger of injury in contests, and the neglect of the many of the school for the few. These criticisms, as those relating to professionalism, are not such as to be final. Nothing in the organization and administration requires such specialization except the unwillingness to treat the subject of play and sport from a constructive, positive, and educational point of view.

Athletics are not physical training and are not to be confused with the more formal training of the gymnasium, but on the other hand they are not to be considered as entirely apart. They constitute a legitimate part of the

work and program of a department of physical education. Physical education in its modern appreciation is concerned with the conservation and promotion of the play activities of youth and is primarily interested in the values flowing therefrom, whether these values are physical, psychic, social, or moral and whether the form of expression be gymnastic, aquatic, or athletic.

The error often made is to think of play and athletics as a means of physical training. They may be, but that is not their chief contribution. They should be hygienic, but if a man's soul is ennobled and his leg broken, we are interested greatly in the former, but little in the latter. The proper emphasis in this connection was given by Theodore Roosevelt when he said:

> I have no sympathy whatever with the overwrought sentimentality which would keep a young man in cotton wool, and I have a hearty contempt for him if he counts a broken arm or collar bone as of serious consequence, when balanced against the chance of showing that he possesses hardihood, physical address, and courage.

Athletics in its interschool and intercollegiate aspects presents a training in feeling and will that is especially valuable since feeling and will are so basal to human social behavior. The broader, more subtle, and less often recognized values of intercollegiate sport are well set forth by Mr. John Collier. In speaking in support of Dr. Gulick's defense of intercollegiate athletics, Mr. Collier said:

> I believe the defense can rest just where Dr. Gulick left it—on the ground, namely, that intercollegiate athletics have, to the colleges and their whole student bodies, a value similar to or identical with that of great drama. They create college spirit, a thing not more valuable to the college than to the student through his whole after life. They break right across the puerile and snobbish exclusions which tend to grow up in college life as in social life generally. They constitute a vivid—even passionate—form of enthusiasm, through which the student's personal egotism is absorbed into his group egotism.

These uses of intercollegiate sport are identical with the primal uses of drama, which deals with group emergencies and conflicts, and makes possible the sublimated expression of group aggressiveness. All of those who saw "The Trojan Women" last spring, or who have seen "The Weavers," now playing at the Garden Theater, will recognize the truth of the above statement, even though they be not familiar with the history of primitive drama and with the intimate connection which exists among primitive peoples between folk religion, folk drama, and folk athletics.

The question as to the intellectual content of intercollegiate athletics (intercollegiate drama) is no more relevant than the question of their immediate use in the physical development of the mass of the students. The inner dynamics of intercollegiate sports are emotional and social rather than intellectual or gymnastic. They are not intended to prepare students for sedentary occupations, but rather so to tie up their personal natures with the group consciousness that they will be able truly to live, even though engaged in sedentary occupations. And of all nations, America is the least one which, at this particular moment of history, can afford to dispense with any enthusiasm or avocation which, like intercollegiate athletics, has a group-forming, a society-forming tendency.*

It would seem, therefore, that with proper attention to athletics in the school and college, aiming to conserve its positive and constructive values, intercollegiate sport and interscholastic sport should be continued and extended. The goal for all athletics is finer types of citizenship. Intercollegiate athletics are to be judged, as indeed all athletics should be judged, by their contribution to human welfare in terms of fine, pure, strong manhood. If the "evils" can not be removed, then intercollegiate athletics should be abandoned.

Athletics as extra-curricular activities.—The advantages of extra-curricular athletics are absent when contrasted with the possibilities of a progressive program. Athletic associations and athletic leagues have been pioneers and have opened the way. They were necessary to fight the narrow-mindedness of "faculty" and "teachers." In this pioneer field, public school athletic

* From a letter written by John Collier to the Editor of the *New York Times*, December 30, 1915.

leagues, such as those in New York City, Baltimore, and Detroit, have done splendid work. The need now is for coördination in the general program; the developmental period is past.

The disadvantages are the resulting evils that grow out of a student activity with "faculty control" that is nothing but faculty taboo, the overspecialization of the few and neglect of the many, the emphasis on winning at all costs in order to come up to the standard of success held by athletic associations, and the continual exposures in the newspapers of irregularities among the colleges. The following headlines are typical of the situation which results from athletics conducted as an aside, as a "safety valve," and as "advertisement for the school."

CAST OFF—— AS COACH AT——

"Did Little Character Building," Is Faculty Committee Head's Explanation

Special to The New York Times.

——ATHLETES IN SHUTTLECOCK RÔLE

Status of Disqualified Men Bandied Between Two Committees for Decision

Special to The New York Times.

MASS OF DATA FOR GRILLING ATHLETICS

Collegiate A. A. to Lay Facts Before Foundations for Investigation

ASSAIL EVIL IN COLLEGE SPORT

MAY COVER WHOLE NATION

Present System Blamed for Low Scholastic Standards and Commercialism

COACH AS FACULTY MEMBER

Dr. Meylan of Columbia Thinks Proposed Change Would Ameliorate Conditions Decidedly

Athletics for all.—Principal Reilly* has worked out a splendid suggestion for the solution of the athletic problem in the elementary school. In a personal letter Mr. Reilly says:

As for me when I talk athletics, I mean an integral part of the scheme of education from the fifth year of the elementary school, to and through the post-graduate schools of the university. I stand for one principle:

* Reilly, Frederick J. *New Rational Athletics for Boys and Girls.* D. C. Heath & Co., New York, 1920.

Make the school team 80 per cent of the register, thus at one fell swoop wiping out professionalism and proselytism and giving the ordinary boy and the under-developed boy a chance to get some athletic training.

I. Heretofore, our minimum requirements for scoring in each event were based on "grade" alone. So long as we considered only class averages, that was fair enough. But for individual competition and rating, it was manifestly unfair to the bright youngsters who were above their normal grade. Consequently we worked out this new system of handicapping, based on four factors—grade, age, height, and weight, the sum of these being the nearest we could come to determining the "physiological age" which would be the basis of athletic competition.

II. The division into groups under certain arbitrary "exponents" for age, height, and weight, is not the result of guesswork. It is based on a careful study of figures obtained in hundreds of cases for several terms past.

III. The study of these figures showed that at this particular stage of growth (between the fifth and eight year of school) the boys and the girls average practically the same in weight and height. Consequently the system of classification for both is exactly the same.

IV. We divide the classes into two cycles:

Fifth and sixth years in one division, called juniors,
Seventh and eighth years in another, called seniors.

In each division we establish five classes, one corresponding roughly to the normal pupils in each of the four grades, and an extra one to take care of the over-age, over-weight, over-height pupils.

V. This new classification has produced a very evident feeling of satisfaction among the boys and girls. The bright little ones who are away beyond their grades are not penalized for having brains. A lightweight in 8B may have to meet only 7A or 7B requirements. On the other hand, the big husky fellows find themselves matched against boys of their own kind.

VI. The standards* adopted this term for each event are, of course, only tentative. They may have to be changed somewhat as a result of experience with the new classification system. But we are inclined to believe that the changes, if any, will be very slight, for the reason that these figures are not guesswork either. They are based on a careful study of results obtained last term.

VII. Schools that take up this work may find the standards rather high at first. It is quite feasible for them to lower all one step, dropping "Class B" down to the "A" standards, making a still lower standard for "A."

We hold a monthly interclass meet in the school yard. The class winning the highest number of points in the four meets gets a banner.

* The standards for classification are given in Mr. Reilly's book, *New Rational Athletics for Boys and Girls.*

The squads winning the highest number of points receive a button for each member. 80 per cent of the class must be paid-up members of the Athletic Association in order to be eligible to compete. The interest in these meets is so keen that our Athletic Associations, both boys' and girls', are in a financially flourishing condition. All expenses for medals, banners, buttons, record cards, special apparatus, etc., are paid out of the funds of the association.

Athletics for girls.—Girls' athletics have not entered into the intercollegiate or interscholastic fields to any appreciable extent. There are some interschool games, especially in basketball. Everything in this respect indicates that the women will make the same mistakes that the men have blundered into. Certainly there should be no extension into the interschool field if newspaper publicity, extreme specialization, and the professional spirit are to appear.

The high school girl should have competitive games under close supervision and every opportunity should be given to develop self-control in emotional situations. This has been dealt with elsewhere.

The college girl should profit greatly from intercollegiate sport. A desirable development would produce a real intercollegiate affair, in which two institutions would come together as student body and faculty for a day of friendly festival and contest.* There might well be an address by the president of the college, and in the afternoon, varsity and class contests in a wide variety of sport and games. The idea of such an intercollegiate occasion might well be expressed in educational values such as flow from mutual understanding, keen rivalry, and clean sportsmanship. If intercollegiate sport for girls is to be a junket, then let us not have any; if it will become an intercollegiate occasion, an educational drama, we may look forward hopefully to its initiation.

* On May 11, 1921, Columbia University closed classes and visited West Point. Faculty and students joined in a day of festivities marked by a baseball game between Columbia varsity and West Point, organ recital, and review of the cadets by President Butler and General McArthur.

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    The above references discuss the perplexing problems that grow out of athletics. They are important discussions.

CHAPTER NINE

Management of Athletic Sports, Games, and Contests

Athletic meets conducted by inexperienced teachers are often tiresome to watch and uninteresting for participants because details are not planned for. Success in management depends upon definite plans and infinite pains in small details. College meets, Amateur Athletic Union meets, and meets of Public School Athletic Leagues of New York and other large city systems are usually run off in splendid time because of the experienced management. There is no problem in administration that organizations of this type are not prepared to solve. An interschool meet, however, affords difficulties at times because of the inexperience of officials and lack of intelligent planning for all the details. Often difficulties arise because the contestants are not trained in relation to the new rules of a game or contest. It should be noted, therefore, that the rules for games and track and field sports are changed from time to time and that the new rules should be used. They are to be obtained from the Spalding Athletic Library, published by the American Sports Publishing Company, 21 Warren Street, New York, N. Y. It is convenient to discuss in three divisions the plans for an interschool meet:

1. Preliminary arrangements
2. Plans for the management of the meet
3. Essential materials

Preliminary arrangements.

1. *Agreement by the management on date, events, and rules.* The agreement on rules should cover eligibility, number of events to be entered, and other points of similar nature. The rules agreed upon should be printed and copies distributed to contestants in all meets when the events are unusual and the participants are novices, unfamiliar with athletic competition. Types of rules that are helpful in this connection are given below. The first is for a grammar school meet; the second is an interclass meet in a woman's college.

SPRING TRACK MEET
of the
GRAMMAR SCHOOL BOYS' CLUBS
Genesee Valley Park—Saturday, June 5, 1915

Rules:

1. Meet starts promptly at 1.30.
2. Numbers and pins will be given out at school headquarters at 1.00 o'clock.
3. A boy may enter only in his own weight class.
4. A boy may enter but two events besides the relay in his class.
5. Two boys may represent their school in each event.
6. Four boys will constitute a relay team. Five may be entered, one to serve as a substitute.
7. A relay team lacking any member will not be allowed to compete.
8. Weights taken and teams formed by the club director *must be approved by the school principal.*
9. Each contestant must have a physician's permit to enter the meet. Boys should have been examined by the school physician within the last six months.
10. Spiked shoes not allowed.
11. Boys changing numbers will be disqualified and will lose all points previously gained.

12. First place will count five points.
Second place " " three points.
Third place " " two points.
Fourth place " " one point.

13. *Entries must be in the office by Saturday, May 29th.*

NOTE: The trophy of the meet is a beautiful silver plaque now held by No. 12 School. Ribbon badges will be given to the winners of first, second, third, and fourth place in each event.

Approved by C. F. GUCKER,
H. J. NORTON, Assistant Director of Athletics.
Supervisor of Physical Education.

TEACHERS' COLLEGE INTERCLASS MEET

RULES FOR EVENTS—FIELD DAY

After reveille, contestants will assemble in their respective class groups. At the call of the announcer, contestants are to leave their group and pass quickly to the starting place of the event. Contestants not in the event must remain in their group formation. When each event is over, return to your group.

1. *Fifty Yard Dash.*—Four contestants from each class (sixteen in all) assemble at the starting mark in any position, but leave a distance of four feet between runners. Quickly make ready for the starter's call "On your mark." The signal to go is the report of a revolver. Start east end, finish west end. There is only one heat, and four places are to be tried for.

2. *Target Throw.*—Those who are to participate in the baseball target throw, should go in charge of their group manager, at some time during the meet and at their earliest opportunity, to the place where this event is being run off and make their throw. Be sure to have your throw recorded. Two out of three count. Four places awarded. (West end.)

3. *Discus Throw.*—(West—south end.) To be thrown from eight foot circle. Two contestants from each class; each contestant has three throws and two preliminary trials. The best mark in distance in three throws counts. Four places awarded.

4. *Sixty Yard Hurdle.*—(Class heats.) (Start east and finish west.) Four hurdles, ten yards apart and fifteen yards at start and finish, four contestants from each class. Event to be run in class heats with a final interclass heat following the dance contest. If more than one hurdle is knocked down, that contestant is disqualified. (Seniors run first.)

5. *Dance Contest.*—(North center.) Odds versus evens. Seniors and sophomores dance first; juniors and freshmen follow. The judges are to consider spirit and execution (accuracy of steps and formation, memory).

6. *Sixty Yard Hurdle.*—(Interclass heat.) (Rule as in preliminary.) Four places awarded.

7. (a) *Javelin Throw.*—(West—north end.) Two contestants from each class. Javelin to be thrown from a line. Event is for distance and the point of javelin scores. Each contestant to have three throws and two preliminary trials. Four places awarded.

(b) *Baseball Throw.*—(West—south end.) Two contestants from each class. Ball is to be thrown from eight foot circle. Event is for distance. Three throws and two preliminary trials given. Ball will be thrown back and should be stopped by contestant next up.

8. *Fence Vault.*—(West end.) Those who are to participate in the fence vault should go at some time during the meet and at their earliest opportunity, to the place where this event is being run off and vault the box. Two (2) trials allowed. Box must be cleared to score. Be sure to have your vault recorded.

9. *Five Hundred Yard Relay.*—Ten contestants from each class. The tie must be received by next runner, before the mark is left, otherwise the class will be disqualified. Four places are scored in this event. (Start east end—finish west end.)

10. *Group Leap.*—(Start east end—finish west end.) Contestants from each class line up in file formation behind take-off. The first one in each file leaps as far as she can. The judge records the distance; she goes to opposite end of the field. The next one walks to last one's mark and toeing it leaps as far as she can. This is continued until entire line has jumped. The class making greatest distance from the starting mark measured in a straight line shall be declared winner. Contestants should remember that the mark recorded is taken at the point nearest the jumping line where any part of the body last touches the ground.

11. *Baseball Game. Odds versus Evens.*—Seven innings. Winners of the game score five points for their respective classes.

2. *Entries.* A time limit for entries is necessary and it is best to get all the entries in early. It is essential to obtain the list in time for printing if the program is to contain the names of entrants. The pupil or student managers should be responsible so far as possible for securing the entries. Every opportunity for developing initiative, leadership, and responsibility should be fostered. In meets under the Amateur Athletic Union, entrants must be amateurs to compete. Complete rules of this athletic

body, as well as those of different colleges and athletic associations prescribe the method of entrance registration.

3. *Securing grounds.* One of the details of importance is obtaining permission to use the athletic grounds. If school grounds are available nothing more may be necessary than for the captain or manager to report to the office the day of the meet. In cities, however, where parks, playgrounds, and special athletic fields are used by different schools and groups, it is very important to secure the field permission early and in writing. Nothing starts a meet worse than to begin with a dispute regarding the use of the field.

4. *Marking field.* Depending upon the facilities for the meet the question of marking the field is a small or large matter. It is entirely possible to have the pupils perform this work; the important thing is to see that it is done and that the field is ready.

5. *Securing officials.* Officials should be selected and invited early to officiate. The officiating at school meets is often very trying and usually the services are gratuitous. It should be the aim of every administrator in physical education to extend thoughtful and courteous attention to the officials. They should receive in writing a confirmation of their appointment with detailed information of the events, place and time of meet, transportation, entertainment, etc.

6. *Advertising.* The effect of the advertising is two-fold: to secure as large a participation as possible and to interest the general public in the program. If athletics are conducted with the "gate" in mind, more attention will probably be given to the latter purpose. It is hardly necessary to state that the

former value has been too much neglected, due largely to the urgent necessity of appealing to the public support. In the school, posters, bulletins, school paper, class announcements, notices in assembly —all the channels of communication—should be used.

7. *Prizes.* If prizes are to be given it will be helpful to secure them early and have them on exhibition at a prominent store in the community. In school meets it has become the happy custom to give ribbons for place winners. Different colors are used to designate the different places. It should be remembered that all the members of a relay team would receive ribbons of the order in which they finished.

8. *Tickets.* Tickets should be on sale at least a week before the meet. Complimentary passes should be mailed to officials, the newspapers, and others to whom it is desired to extend this courtesy.

Plans for the management of the meet.—We have been discussing the preliminary arrangements to be made. It is important to plan carefully for the detailed work of conducting the meet. The following would seem to be important:

1. *Official badges.* It is desirable to provide officials with badges denoting their status. This avoids confusion in many instances and assists in maintaining control of the contestants and spectators.

2. *Directions.* It is absolutely essential for all school meets to provide directions in printed form for contestants and judges. Typewritten sheets will be found satisfactory. The importance of this is greater if the events are at all unusual or different from standard contests. In girls' meets this will be found especially important because of the modifications in events and the inexperience in such matters of the

participants and judges. The following as types will represent the sort of information very helpful to contestants and to judges:

GRAMMAR SCHOOLS' TRACK MEET, JUNE 5, 1915.

To All Contestants:

1. Pin your numbers on securely.
2. When not taking part in an event stay at your school headquarters. A boy found violating this rule will have his number taken from him.
3. Each event will be announced from the announcing platform in the following manner: A large gong will be rung which calls for silence. The announcer will then call out the event through his megaphone and an event sign will be raised.
4. When your event is called go immediately to the starting point.
5. Winners of events must not ask officials unnecessary questions. The officials will be very busy, and all announcements of winners and records broken will be made from the announcing platform.
6. Prizes will be given out during the meet at the table of the custodian.
7. Method of running off events:
   a. The first and second boy in each preliminary heat of the dashes will qualify for the semi-finals.
   b. The five fastest boys in the semi-finals will qualify for finals.
   c. In the 220 yard dash each boy will run once, and for time. The four best times will place.
   d. In the running broad jump each boy gets two trials. The four best jumpers get two extra trials. The best jump counts whether in trials or finals.
   e. In the running high jump a boy will be given two trials for each height. The last four in the contest will be given three trials.
   f. Each relay team will run once, and for time. The teams making the four best times will place.
8. Return numbers to your director at the close of the meet.

SUCCESS TO YOU ALL!

Yours very truly,
C. F. GUCKER,
Assistant Director of
Grammar School Athletics.

Approved by
H. J. NORTON,
Supervisor of Physical Education.

*TEACHERS COLLEGE ATHLETIC ASSOCIATION**

Field Day—May 8th, 1920

Officials and Dates

Referee and starter of events—Dr. Williams
Clerk of course—Mr. Wardlaw
Official scorer—Miss Janes
Assistant scorer—Miss Graham
Announcer—Miss Rogers
Field physician—Dr. Burton-Optiz

1. *Fifty Yard Dash* (Start east—finish west)
   Starter—Dr. Williams
   Timers—Miss March, Miss Frost, and Mr. Holm
   Judges at finish (West end)
   a. Of first place — Miss Colby
   b. " second " — Miss Larson
   c. " third " — Miss Fuller
   d. " fourth " — Miss Cooper
   Holders of tape—Miss King and Mr. Scott
   Official scorer—Miss Janes
2. *Baseball Target Throw* (West end)
   **Supervisor—Miss Knighton
   Recorders—Misses Rosenfeld, Zuedrelle, MacDonald, Morris, Elliot, Cole
3. *Discus Contest* (West—south end)
   Judge at line—Miss Van Santford
   Judges of distance—Mr. Scott and Mr. Wardlaw
   Assistant scorer—Miss Graham
4. *Sixty Yard Hurdle* (Class heats) (Start east)
   Starter—Dr. Williams
   Timers—Miss March, Miss Frost, and Mr. Holm
   Judges at finish (West end)
   a. Of first place — Miss Colby
   b. " second " — Miss Larson
   c. " third " — Miss Fuller
   d. " fourth " — Miss Cooper
5. *Dance Contest* (North center)
   To be judged on spirit and execution, accuracy of steps and formation, memory.
   Judges—Misses Colby, Larson, Mrs. Fretwell
   Official scorer—Miss Janes

* In college meets when participants and judges are experienced, it is not necessary to have the duplication given above. A grouping of events for each official would be simple, adequate, and less expensive.

** Supervisor must receive the entry list of contestants before allowing class to compete in this event.

6. *Sixty Yard Hurdle* (Final)
   Starter—Dr. Williams
   Timers—Miss March, Miss Frost, and Mr. Holm
   Judges of finish (West end)
   a. Of first place — Miss Colby
   b. " second " — Miss Larson
   c. " third " — Miss Fuller
   d. " fourth " — Miss Cooper
   Inspector of course—Mr. Wardlaw
   Holders of tape—Miss King, Mr. Scott
   Official scorer—Miss Janes
7. (a) *Javelin Throw* (West—north end)
   Judge at line—Miss Van Santford
   Judges of distance—Misses Fuller and Cooper
   Assistant scorer—Miss Graham
   (*b*) *Baseball Throw* (West—south end
   Judge at line—Mrs. Fretwell
   Judges of distance—Messrs. Scott, Wardlaw, Dr. Williams
   Official scorer—Miss Janes
8. *Five Hundred Yard Relay* (Start east end—finish west end)
   Starter—Dr. Williams (East end)
   Judges at finish
   a. Of first place — Miss Colby
   b. " second " — Miss Frost
   c. " third " — Miss Fuller
   d. " fourth " — Miss Cooper
   Judges of line (West end)
   a. 1919 — Miss March
   b. 1920 — Mr. Holm
   c. 1921 — Mrs. Fretwell
   d. 1922 — Miss Van Santford
   Holders of tape—Miss King and Mr. Scott
   Official scorer—Miss Janes
9. *Fence Vault* (West end)
   *Supervisor—Miss Knighton
   Judges of vault and recorders—Misses Campbell, Janes, Baker, Andrews, Wishard, McCorry
10. *Group Leap* (Start east end—finish west end)
    Judges—Mrs. Fretwell, Miss Van Santford, Mrs. Wardlaw, Dr. Williams
11. *Baseball Game* (Baseball diamond)
    Umpire—Dr. Williams
    Official and assistant scorers—Misses Graham and Janes

*Supervisor must receive the entry list of contestants before allowing class to compete in this event.

3. *Program.* The order of events should be indicated in the program. It is a good plan to include in the program the past records and holders of the same. The values of the different places should be indicated and a summary provided for the different classes or organizations in the meet. The importance of a well set up program cannot be overestimated.

4. *Sheets for scorers.* The forms on pages 192–4, slightly modified for printing purposes have been prepared by Mr. L. C. Stevens, Box 143, New Brunswick, N. J. Cards, 9 x 11, for the use of officials may be secured in quantity from Mr. Stevens.

Essential materials.—The director of athletics who will systematize his work and will keep from year to year a list of materials required for the conduct of an athletic meet will find his work not only easier but also less irritating and annoying. Nothing is quite so confusing as the lack of the toe board when the shot put is called, or the breaking of the only cross bar in the high jump. The following list, corrected from year to year by a games director in a city school system, represents the materials he found helpful in the conduct of interschool athletic meets:

1. Marking field.
2. Benches for teams on field
3. Provisions to exclude spectators
4. Two (2) 100-foot steel tapes
5. Starting gun with blank cartridges
6. Extra cross bars
7. Shot, discus, hurdles, toe board, jump standards, and other paraphernalia
8. Woolen yarn for finish of races
9. Stop watches, whistles, and megaphone
10. Rules for officials
11. Sheets for scorer, clerk of course, and field judges
12. Summary sheet

SCORE SHEET FOR FIELD EVENTS

Games of..... *Date*..... .....*191*..

Mark the result of each trial in.....according to the following

KEY √—Successful Trial. P—Passed Trial. B—Balk. X—Failure of Trial. F—Foul Trial.

Hand this Score Sheet to.....

Contestant's No.	NAME									

	NAME	CLUB	HEIGHT or DISTANCE	JUDGES
WINNER				
SECOND				
THIRD				
FOURTH				

OFFICIAL SCORE CARD

Games of..... *Date*.....19.....

EVENTS		TRIALS			SEMI-FINALS			FINALS				
		1st	2nd	Time	1st	2nd	Time	1st	2nd	3rd	4th	Time
100 Yard Run	1st Heat											
	2nd "											
	3rd "											
	4th "											
	5th "											
220 Yard Run	1st Heat											
	2nd "											
	3rd "											
	4th "											
	5th "											
440 Yard Run	1st Heat											
	2nd "											
	3rd "											
880 Yard Run	1st Heat											
	2nd "											
	3rd "											
120 Yard Hurdle	1st Heat											
	2nd "											
	3rd "											

220 Yard Hurdle	1st Heat												
	2nd "												
	3rd "												
	4th "												
	5th "												
440 Yard Hurdle	1st Heat												
	2nd "												
	3rd "												
One Mile Run													
Five Mile Run													
Three Mile Walk													

FIELD EVENTS	TRIALS					FINALS					
	1st	2nd	3rd	Distance or Height ft.	in.	1st	2nd	3rd	4th	Distance or Height ft.	in.
16 Pound Shot											
16 Pound Hammer				"	"					"	"
56 Pound Weight				"	"					"	"
Discus				"	"					"	"
Javelin				"	"					"	"
Running Broad Jump				"	"					"	"
Hop, Step, and Jump				"	"					"	"
Running High Jump										"	"
Pole Vault										"	"

A copy of this card should be filed with the local Amateur Athletic Union organization

.....Official Scorer

13. Diagram of track and assigned events
14. Headquarters
15. Event signs and score boards
16. Numbers and safety pins
17. Chalk, tacks, hammer
18. Order of events

Valuable suggestions for equipment in track and field sports are given by Murphy (1) and Withington (2).

Management of team sports in competitive games.—Well organized and administered interschool contests in games depend also for their success in management upon thoroughness in looking after details. The following suggestions would seem helpful:

I. *General.*

1. Contracts should be signed by a responsible officer of the school. It is not desirable to have the coach sign contracts; too frequently in interschool games, the coach cancels a game that is particularly important. This is especially true when his reputation is at stake
2. Make arrangements for use of field or gymnasium for the season
3. Devise a system for keeping track of equipment supplied to players. Texts on the various sports give helpful hints on the selection and use of equipment (3)
4. Arrange for competent officials for all games in season and have list of competent and available substitute officials for an emergency
5. Advertise
6. Arrange for ticket sale, "official" badges, and police
7. First aid kit
8. Score board

II. *Specific.*

1. Baseball game

Things to provide for game:

a. Preparation of visiting team dressing room, with facilities for bathing, drinking water, and towels
b. Proper marking of the field
c. Benches for teams on the field
d. Provision to exclude spectators from the field
e. Baseballs
f. Drinking water on the field
g. Copy of official rules

2. Football game
Things to provide for game:
   a. a to d of 1
   b. Football
   c. Ten yard lines for lineman and staff for headlinesman
   d. Whistles, horns, and watches for officials
   e. Drinking water on the field
   f. Copy of official rules

3. Basketball
Things to provide:
   a. a and d of 1
   b. Basketball
   c. Whistles, stop watches, gun with blank cartridges
   d. Copy of official rules

4. Swimming
Things to provide:
   a. a and d of 1
   b. Watches and starting "blocks" for officials
   c. Ropes or tapes for finish of distance races
   d. Megaphone, score board, and chalk
   e. Sheets for scorer, clerk of course, and judges
   f. Summary sheet
   g. Order of events
   h. Rules for officials

It is a good plan to have the prizes for competition on exhibition. A custodian should be in charge. In interscholastic meets of the type held at Ohio State University, University of Texas, and other large universities, an elaborate program for entertainment of the visiting high school boys adds to the responsibilities of the management. The details of such meets should be worked out and cared for by committees. The Ohio interscholastic meet held in connection with the "Big Six" at Ohio State University is an illustration of an excellently conducted meet. Mr. L. J. St. John of Ohio State has managed this affair with rare skill.

Swimming meets.—Intercollegiate swimming has developed so splendidly as a sport that the procedure of the contest is well defined by rules. School and class meets are often administered indifferently and the point around

which so much difficulty arises is the judging of the diving. The intercollegiate rules provide four required and four optional dives. The required are: (1) plain front, (2) plain back, (3) front jack, and (4) back jack. These are marked on the scale of ten. In the standard dives the form is well known. Other dives that might be chosen vary in difficulty, so that the accredited list of optional dives has a "factor" by which the grade for that particular dive must be multiplied to secure the score for that particular effort.

The form on pages 198, 199 shows a type of diving card that should be supplied the judges of diving. One column of the blank is filled in showing the use of the "factor" which estimates the degree of difficulty. Each diving judge should sign his card indicating in this way the authority for the scorer in computing the results. It should be understood that the four optional dives are selected by the participant. The form illustrated here indicates what Denison (Ohio Wesleyan University) chose. The choice of dives is to be recorded and the card handed to the judge. The importance of providing an exact, efficient, and convenient means for scoring the event is to be emphasized.

Tournaments.—A tournament is a series of games of one kind that results in a winner by elimination of the losers. There may be a tournament in tennis, in golf, in chess, in basketball, in handball, and other games. The value of a tournament lies in the number that can be interested to start the contests; its disadvantage lies in the elimination of those who may need to play the most. This advantage may be overcome by continuous play in which losers do not drop out but rotation of opponents occurs.

Arranging competition.—In any sport or game in which the tournament form is to be followed, the players or

Denison (O. W. U.)				Johnson (U. C.)			
REQUIRED DIVES			Final	REQUIRED DIVES			Final
1 RUNNING FRONT			9	1 RUNNING FRONT			
2 BACK			8	2 BACK			
3 RUNNING FORWARD JACK-KNIFE			10	3 RUNNING FORWARD JACK-KNIFE			
4 BACK JACK-KNIFE			9	4 BACK JACK-KNIFE			
OPTIONAL DIVES	Degree Diff.	Judge's Award		OPTIONAL DIVES	Degree Diff.	Judge's Award	
5 Flying dutchman standing	1.9	9	17.1	5			
6 Flying dutchman somersault, standing	1.7	8	13.6	6			
7 Forward one and a half somersault, running	1.8	9	16.2	7			
8 Backward one and a half somersault, standing	2.2	9	19.8	8			
A. S. Brown	TOTAL		102.7		TOTAL		

Lyateu (O. W. V.)				Rebbin (U. C.)			
REQUIRED DIVES			Final	REQUIRED DIVES			Final
1 RUNNING FRONT				1 RUNNING FRONT			
2 BACK				2 BACK			
3 RUNNING FORWARD JACK-KNIFE				3 RUNNING FORWARD JACK-KNIFE			
4 BACK JACK-KNIFE				4 BACK JACK-KNIFE			
OPTIONAL DIVES	Degree Diff.	Judge's Award		OPTIONAL DIVES	Degree Diff.	Judge's Award	
5				5			
6				6			
7				7			
8				8			
TOTAL				TOTAL			

teams are paired by chance. Numbers are given the teams and drawn from a receptacle according to an arbitrary rule which will pair the contestants. If four are entered there will be two pairs in the first round. The winners of the first round (two in number) then play and the winner is determined. This is a very simple arrangement and remains so when 2, or a power of 2 as 4, 8, 16, 32, or 64, etc., teams or players are entered. If any other combination presents itself, for example 12, or 17, or 33, then what is known as "drawing bye" is resorted to. The number to draw "bye" is determined by subtracting the number entered from the next highest power of 2. Thus if 17 are entered 15 will draw "bye"—(32−17=15). That leaves two who will play a preliminary round and the one winner from this play will enter the first round with the 15 "byes" making 16 the correct number. The following instructions for "drawing bye" the author used in conducting a reconstruction contest in the army hospitals of the Atlantic Division of the American Red Cross.

AMERICAN RED CROSS
ATLANTIC DIVISION
DEPARTMENT OF MILITARY RELIEF

Memorandum for recreation directors:

Instructions for conducting the tournaments.

1. In arranging the contestants for the tournaments in quoits or checkers, the names must come into the first round in powers of 2, as 4, 8, 16, 32, 64, etc. This is necessary in order to arrive with 2 contestants in the final round. If you do not start with 4, 8, 16, 32, or 64, you will arrive with 3 men in the final round. This is not satisfactory.

2. If the number of contestants does not equal exactly 4, 8, 16, 32, or 64, they must be reduced in a preliminary round of play to one of the numbers indicated above. The number to which the contestants are reduced is always the next lowest number in the series. For example, 13 must be reduced to 8; 17 to 16; 30 to 16; 63 to 32; 40 to 32, etc. If more than 64 are entered, it is advisable to have two tournaments. The reduction of contestants to the required number is

accomplished by having some "draw bye" and not play in the preliminary round and the others contest to determine which ones will join with the "byes" for the first round of the tournament.

3. The procedure of drawing "bye" is as follows: Write the names of the contestants on slips of paper, place in a hat or other receptacle, and draw out the slips, recording the order in which drawn. Determine previously how many and what numbers will draw "bye" and the number to play the preliminary round.

4. The number to draw "bye" will be found by subtracting the number entered from the next highest power of 2. If 31 men are entered, subtract from 32. This gives 1, and 1 will draw "bye." One "bye" will leave 30 in the preliminary round and from this play will come 15 winners to be arranged with the "bye" in the first round giving 16.

This determination of the "bye" and preliminary players may be worked out algebraically. Assume that 31 are entered. These must be reduced to 16 for the first round. The following will provide the solution and help to understand the short cut of the above method.

Let x = number of men to play in the preliminary round,

and y = number of men to draw "bye."

If there are 31 entered, then

$x+y=31$

$x=31-y.$

And if $\frac{1}{2}$ the preliminary players plus the "bye" equals the first round, then

$$\frac{x}{2}+y=16.$$

Substituting $(31-y)$ in the above equation for x, we have

$$\frac{31-y}{2}+y=16.$$

$31-y+2y=32$

$2y-y=32-31$

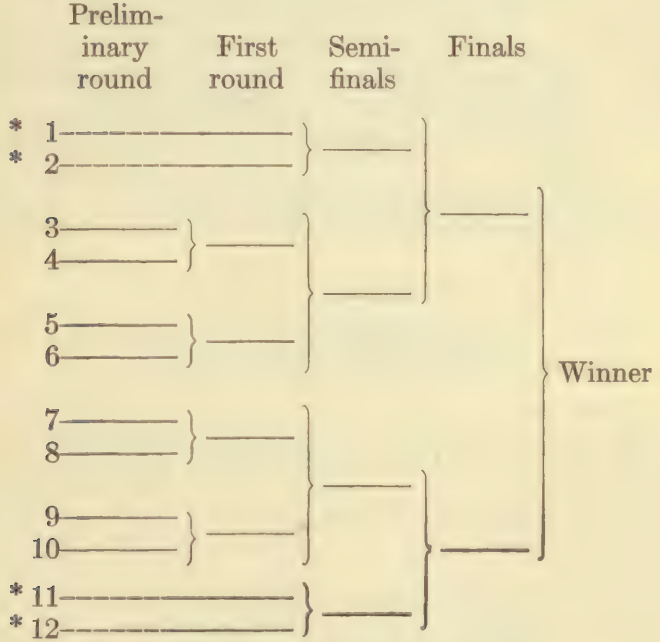
$y=1$ number to draw "bye"

$x=31-y$

$x=30$ number to play a preliminary round.

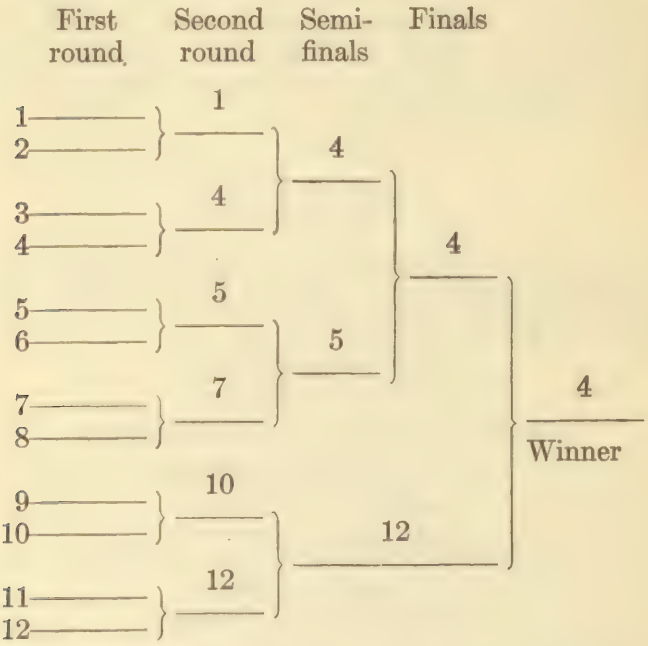
From the preliminary round there would be 15 winners. These and the 1 "bye" will equal 16 to start the first round of the tournament.

Graphic representation.—After the teams or players have been selected for the preliminary (in case of "drawing bye") or first round in case the numbers total 4, 8, 16, 32, 64, etc., the names should be posted and a scheme for pairing the winners prepared. The following is the usual form used—(an example of a case when "drawing bye" is necessary):



*It will be noted that numbers 1, 2, 11, 12, did not play in the preliminary round.

The following graphic representation of twelve teams arranged without the "bye" provision illustrates the necessity for the above procedure.



The above arrangement shows that players 4, 5, and 12 in the semi-finals must draw to see who plays. Suppose 4 and 5 play and 12 draws "bye." Also suppose that 4 is victor over 5 and also defeats 12. It may very well happen that 5 is a better player than 12 and yet by chance 5 does not get into the finals. This injustice would be diminished by a correct arrangement at the start.

It is not always desirable to arrange teams in tournament schedules and it becomes advisable to compete on a percentage basis.

Schedule making.—There are two methods of arranging teams in schedules. One is only available if the number of teams is 4, 8, 16, 32, or similar powers. This method is given below with four and also with eight teams:

In the four team series assume the four teams as follows: 1, Liberty; 2, State; 3, Federal; 4, Victory. Arrange the numbered schools as follows so that each school plays every other school:

1–2
1–3 2–3
1–4 2–4 3–4

There are four teams and there will be two games, therefore, in each series. Draw a line through 1–4, 2–3, as shown, giving the first series, as

1–4 Liberty vs. Victory
2–3 State vs. Federal

Pick up in the next line 1–3 and 2–4

1–3 Liberty vs. Federal
2–4 State vs. Victory

The third series is then found to be

1–2 Liberty vs. State
3–4 Federal vs. Victory.

Assigning dates and rearranging, the following would appear:

May 1	May 8
Liberty vs. Victory	Liberty vs. Federal
State vs. Federal	State vs. Victory

May 15
Liberty vs. State
Federal vs. Victory

If an eight team schedule is required, the schools are numbered in the following manner:

1, Townsend; 2, Lincoln; 3, Lincoln; 4, Union; 5, Central; 6, Raleigh; 7, Roosevelt; 8, Wood. Arrange the numbers as indicated in figure 10.

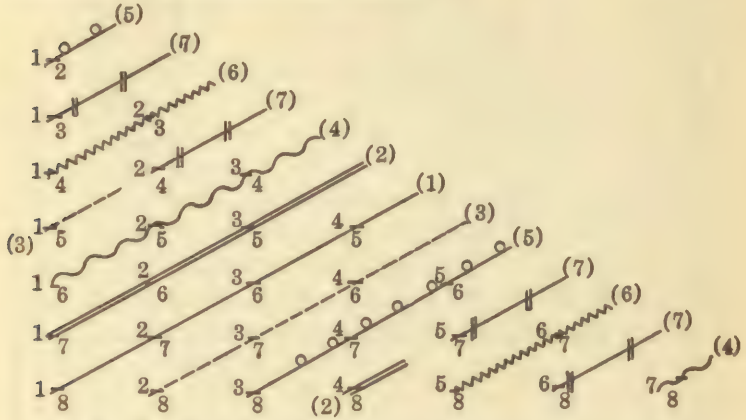


Fig. 10. The different lines indicate the teams to be grouped on any one date.

Striking through the center (1) determine the teams in the first series, 1–8, 2–7, 3–6, 4–5. Take the next line (2) and pick up the pair needed, which is found to be 4–8. Repeat on the other side (3) and pick up 1–5. Continue as indicated by the lines and numbers above. Arranging dates and teams the following would appear:

June 3	June 5	June 10	June 12
1–8	1–7	2–8	1–6
2–7	2–6	3–7	2–5
3–6	3–5	4–6	3–4
4–5	4–8	1–5	7–8

June 17	June 19	June 23
3–8	1–4	1–3
4–7	2–3	2–4
5–6	5–8	6–8
1–2	6–7	5–7

	Grant	Sherman	Lincoln	Travis	Crocket	Carson	Roosevelt
Grant		Jan. 5	Jan. 12	Jan. 19	Jan. 23	Jan. 16	Jan. 7
Sherman	Jan. 26		Jan. 7	Jan. 14	Jan. 21	Jan. 19	Jan. 12
Lincoln	Feb. 2	Jan. 28		Jan. 9	Jan. 16	Jan. 23	Jan. 21
Travis	Feb. 9	Feb. 4	Jan. 30		Jan. 5	Jan. 12	Jan. 19
Crocket	Feb. 13	Feb. 11	Feb. 6	Jan. 26		Jan. 7	Jan. 14
Carson	Feb. 4	Feb. 9	Feb. 13	Feb. 2	Jan. 28		Jan. 9
Roosevelt	Jan. 28	Feb. 6	Feb. 11	Feb. 9	Feb. 4	Jan. 30	

Fig. 11. The arrows indicate the dates on which the teams play.

By assigning the appropriate schools to numbers the playing schedule is completed. It will be seen that every team plays every other team once and that no two teams play more than two games a week in the playing season. This method is not as satisfactory with an odd number of teams as it is in the schedule. The method that is most often used, therefore, is the second method described below, which is useful in arranging schedules for any number of teams.

The conditions for a contest of this kind may vary greatly, but we will assume that it is desired that every team play every other team and that no team play more than two games in any week. Using a seven team league, for example, arrange the teams on the abscissa and ordinate as indicated in figure 11.

The dates are placed in the squares following the arrows. Though two games a week are played, three dates are selected because of the odd number of teams. The schedule recapitulated would appear as follows:

Jan. 5	Grant	Travis	
	Sherman	Crocket	
Jan. 7	Sherman	Crocket	Grant
	Lincoln	Carson	Roosevelt
Jan. 9	Lincoln	Carson	
	Travis	Roosevelt	
Jan. 12	Grant	Travis	Sherman
	Lincoln	Carson	Roosevelt

Jan. 14	Sherman	Crocket	
	Travis	Roosevelt	
Jan. 16	Lincoln	Grant	
	Crocket	Carson	
Jan. 19	Grant	Travis	Sherman
	Travis	Roosevelt	Carson
Jan. 21	Sherman	Lincoln	
	Crocket	Roosevelt	
Jan. 23	Lincoln	Grant	
	Carson	Crocket	

The schedule is repeated from Jan. 26 to Feb. 13. Any arrangemen of dates that is desired may be made, one game a week, or a gam every day.

A handball schedule arranged by Mr. Harry Scot for six teams follows:

HANDBALL SCHEDULE

Blue	Shultz Gottlemen	Brown	Bisehoff Pierson	White	Hammond Fritz
Black	Freedman Caesar	Green	Spiller Pine	Red	Miller Salzberg

Report games won to Mr. Scott immediately after playing.
Failure to report immediately may mean that the game will b forfeited.
Turn ball in when reporting.
Schedule starts Monday, January 12.
C in schedule means court.

SCHEDULE

Blue	*White*	*Green*	*Red*	*Black*	*Brown*
MEN	Blue Jan. 12 C-5	Blue Jan. 14 C-7	Blue Jan. 16 C-10	Blue Jan. 19 C-5	Blue Jan. 21 C-7
White Jan. 12 C-5	MEET	White Jan. 16 C-7	White Jan. 19 C-10	White Jan. 14 C-5	White Jan. 23 C-7
Green Jan. 14 C-7	Green Jan. 16 C-7	ON COURTS	Green Jan. 12 C-10	Green Jan. 21 C-10	Green Jan. 19 C-7
Red Jan. 16 C-10	Red Jan. 19 C-10	Red Jan. 12 C-10	DESIG-NATED	Red Jan. 16 C-5	Red Jan. 14 C-10
Black Jan. 19 C-5	Black Jan. 14 C-5	Black Jan. 21 C-10	Black Jan. 16 C-5	ON THIS	Black Jan. 12 C-7
Brown Jan. 21 C-7	Brown Jan. 23 C-7	Brown Jan. 19 C-7	Brown Jan. 14 C-10	Brown Jan. 12 C-7	SCHED-ULE.

Medical control of athletics in competition.—It is generally accepted to-day that nothing less than a thorough and scientific medical examination will be satisfactory in the administration of the activities of physical education. This requirement is justified on two counts: the detection of disease with the consequent opportunity to correct the defect, and the adequate supervision of those engaging in strenuous sports so that preventable injury from participation may not occur.

Inasmuch as the participants in interscholastic and intercollegiate sport are required in most institutions to maintain a satisfactory amateur and academic standing, it is convenient for the director in those institutions with modern standards to have on one card the information

UNIVERSITY OF CINCINNATI

DEPARTMENT OF HYGIENE AND PHYSICAL EDUCATION

Medical Examination
Team Candidates

Name..... *Squad*..... *Class*.....

Date																				
HEART Borders																				
Rhythm																				
Rate—Reclining																				
" Standing																				
" After hopping 100 feet																				
BLOOD PRESSURE Reclining																				
Standing																				
After hopping 100 feet																				
LUNGS																				
URINE Sp. Gr.																				
Reaction																				
Sugar																				
Albumin																				
Microscopic																				
HERNIA																				

Amateur Standing.....
Academic Standing.....
Physical Condition.....
Laboratory Analysis.....
Participation in.....
for the season.....is
approved:
.....M. D.

on the complete amateur, academic, and physical condition of the individual with some detail of the physical examination. There should be space for repeated examinations. The card on page 210 is suggestive of the type of card for this information.

SELECTED REFERENCES

1. Murphy, M. C. *Athletic Training*, Chas. Scribner's Sons, New York, 1914.
A very interesting and helpful book by the late Michael Murphy.
2. Withington, Paul. *The Book of Athletics*, Lothrop, Lee and Shepard, Boston.
A valuable compilation from various sources.
3. Warner, Glenn S. *Course in Football for Players and Coaches*, Published privately, Carlisle, Pa.
Clark and Dawson. *Baseball*, Chas. Scribner's Sons, New York, 1915.
Wardlaw and Morrison. *Basketball*, Chas. Scribner's Sons, New York, 1921.
Three good books on the subjects indicated.

CHAPTER TEN

Intramural Athletics, Recreational Clubs, Camping, and Hiking

Physical education for all.—Physical education is broadening its program. By no possible stretch of the imagination can we see the possibility of the profession's ever being satisfied with the partial, narrow, and restricted training given in some schools or the highly specialized and selected training given to the few in college. Physical education must aim to afford an opportunity for all to engage in activities that are physically wholesome, mentally stimulating and satisfying, and socially sound. The advent of intramural associations in schools and colleges and the formation of recreational clubs and camping and hiking organizations are symptomatic of the newer thought in physical education that interprets its program in the light of man's nature and biologic needs. The view is maintained that the particular service that physical education must render is to provide for all, opportunities for participation in natural, wholesome forms of physical activity. It is not concerned in specific muscle building programs, except for the few selected cases needing remedial gymnastics, (the number of these cases will be less as the general program is improved) but is vitally interested in physical education for all. One of the many excellent developments in modern physical education is intramural sport.

Intramural sport.—Intramural sports may be defined as the organized competitive activity among organiza-

tions or units within the walls of an institution. In some colleges the system of intramural sport consists of schedules of contests between two or more class teams. The purpose of this class activity is frequently to discover material for varsity teams. Such plan and purpose are totally unacceptable. The opportunity must be given to every student to take part in some sport attractively organized and intelligently supervised. If good varsity material is uncovered, if varsity athletics are made popular, those results are interesting and valuable but the point of view of "athletics for all" must not be lost in the beneficent by-products produced. In all class contests and games, varsity members should not be allowed to participate. The effort to increase the number of class competitors should be strengthened; varsity players on class teams weaken it.

Frank Kleeberger, Professor of Physical Education at the University of California, says* in this connection:

Intramural athletics may involve, assuming proper organization, gymnasia, fields, and administration, about 78 per cent of a university's students. Such success would presuppose an intramural organization such as, I believe, has seldom been put in action. Intramural sports, as conducted in most universities, sail under false colors, failing to train large numbers, reaching them only through pick-up competition, preceded only by little or no actual physical training, and in reality proving more of a menace to good sport and physical health than poorly-conducted intercollegiate athletics.

The most successful basis for intramural organization thus far experimented with at the University of California in the promotion of physical training among relatively large numbers is that developed during the past half year. Throughout this period the male student body was divided into two arbitrary groups which happened to be fairly equal as far as men of athletic ability were concerned. Each of these two divisions, namely the army and navy units of the Student Army Training Corps, consisted of six subgroups or companies, which companies were fairly equally matched athletically. Thus was created an ideal basis for the development of athletic series in the various sports, first within each unit and finally between the units. Through this

* Kleeberger, Frank. *Annual Report. Department of Physical Education for Men.* 1918–1919. University of California.

intercompany competition the logical representatives of each unit were selected for the final army-navy struggle. This took place and resulted in great rivalry and interest.

If a scheme of intramural activity could be developed along similar lines under normal conditions and guided by a proper *administration* equipped with adequate field and *other facilities*, a scheme of physical training might be evolved making unnecessary requirements along this line. Such a plan might develop sufficient interest to attract juniors and seniors as well as lower classmen, but it would depend for its success upon the establishment of very different methods of procedure as to intramural organization from those usually practiced. Interclass, interfraternity and intercollege rivalry unguided often results in athletic competition without *adequate preliminary training*, and competition between units unequal as to athletic strength and experience.

It is important to point out that the haphazard, poorly organized, and more occasional interclass, interfraternity, or interclub contests are not good illustrations of intramural sport. The players often are not in good physical condition, are untrained, and the injuries are more frequent than in varsity sports, especially in football. Organization of schedules and provision for expert supervision are essential for the proper development of this phase of physical education.

Intramural sport for women.—Athletics for all may be more readily realized for girls because the traditions of interscholastic and intercollegiate sport are less fixed than in boys' schools. The organization of intramural athletics for women at Wisconsin University is very well worked out. In the fall there are teams in hockey and swimming, in the winter teams in basketball, indoor baseball, and bowling, and in the spring dancing, track, archery, tennis, outdoor baseball, volley ball, and quoits. At the beginning of each season every student in the department registers for the sports she wishes to pursue. The plan of administration in basketball is typical of the plan for all the sports. It follows:*

*Letter from Miss Lucy Wallrich, Instructor in Physical Education, University of Wisconsin.

At the beginning of the basketball season, all girls were put into sections, beginners being kept in separate classes. After several weeks of practicing the class managers, the head of sport, and the coach chose class squads. We kept a card catalogue throughout the season with name, year, position, and remarks for every girl, which aided us a great deal when we came to choosing. We put about fifteen to eighteen girls on a squad. Then after about two weeks' practice, the first teams were chosen from these squads. Then we picked second teams for each class and also third teams. The squads of the first and second teams receive points in the Athletic Association and therefore must pass an eligibility rule, but the third teams are not held to this rule and therefore do not receive points. The remainder of the girls were put into color teams with no attention paid to the *class*.

We ran off first team games, squad games, second and third team games, and the color tournament all at the same time, so you see every girl registered for basketball was playing on some team, and in all cases for her *class* except those on color teams. There is a great deal of interest and enthusiasm in all these games. We end up all our seasons with a spread or picnic, at which time we announce a varsity team—chosen by the head of sports, class captains, and coach. This team is purely honorary as we play no intercollegiate games.

In the spring we end our season with a big Field Day—having the final Track Meet, Baseball Championship Game, Tennis and Archery finals, and the Dance Pageant all at that time.

Value of intramural sports.—The committee on intramural sport, of the Athletic Research Society, reports (1) the result of a questionnaire in which the values of intramural sports were checked upon.

The following question was asked: "Will properly conducted intramural sports tend to improve the health, scholarship, and general efficiency of those participating?"

The answer was as follows:

Health	yes	123—98%
Scholarship	yes	118—93% (three answers modified)
Scholarship	no	2
General efficiency	yes	118—93% (one answer modified)
Total replies		126

While the report is not final, it is authoritative and very suggestive of the values to be expected in enlarging the physical education program.

Organizations in intramural sport.—Some games lead easily to intramural organization. It is reported that in Oregon and Washington great strides have been made especially in basketball, cross country, and boxing. The following gives the point of view from this part of the country:

> We have found that basketball is the easiest sport to organize in an intramural way and perhaps football is the least worth while, due to the cost of equipment and liability to injury. We have used indoor baseball and cross country to take the place of interest during football season, limiting our intramural football to the interclass games.
>
> Cross country running as an intramural sport presents a hard problem that was solved at Oregon Agricultural College by some original plans and rules. We gave awards to league winners, as in other sports, and awarded points to contestants over a five-week period, each man being permitted to run twice each week over a given course with his organization receiving credit for his scoring. Each man was ranked according to the time required to cover the two and a quarter mile course.
>
> During basketball season we have found that boxing and wrestling contests help to round out the season and have proved popular when properly supervised. Tennis, track meets, and baseball leagues are easily organized during the spring months; in fact you can't keep the students out of the game once they get the proper spirit toward intramural sport.
>
> We have found merchants of the city quite willing to offer trophies for winning teams in various sports. We have a fund from our associated students' budget to cover purchase of medals and plaques offered by the department for winners in the various fields of competitive sport.
>
> The biggest and best feature about intramural sports is the wonderful opportunity offered the men for development of qualities of leadership. This idea should be kept in mind and the largest share of the organization work placed on the shoulders of the student leaders under proper supervision.*

The intramural committee suggests the following division for college organization:

*News Item. *American Physical Education Review.* May, 1920, p. 220.

1. College divisions
   - *a.* Class, e.g., freshman, sophomore, junior, senior
   - *b.* College, e.g., agriculture, arts, engineering, medicine
   - *c.* Department, e.g., horticulture, civil engineering, mechanical engineering
   - *d.* Combination class, college, or class department, e.g., freshman agriculture, sophomore law, junior engineering, senior arts
2. Social organizations
   - *a.* Dormitories
   - *b.* Fraternities
   - *c.* Eating clubs
   - *d.* Boarding clubs
3. Special college groups
   - *a.* Literary societies
   - *b.* Sports clubs: rowing, cross country, tennis, cricket, hockey, skiing, etc.
4. Military units (especially in land grant colleges and universities)
   - *a.* Battalions
   - *b.* Companies
5. Miscellaneous units (loosely organized groups with no bond except the name, etc.)
   - *a.* Non-varsity squads: Reds, Blues, etc.
   - *b.* Pick-up teams
   - *c.* Specially organized squads of men who have to be pulled out
6. Special organizations with standards of individual excellence in performance prerequisite to membership
   Sigma Delta Psi (athletic fraternity)

In high schools and secondary schools considerable intramural activity may be fostered. It is helpful to work with the organizations already present in the school. It may be necessary in order to accomplish worth while results, to foster a special organization working for special ends. The Jungle League idea, in which the pupils become members of different units with names of wild animals has been very successful in some places. It is often necessary to devise dramatic ways to awaken interest. Afterward the satisfying nature of competitive sports usually will be sufficiently attractive to secure participa-

tion. Boys at a certain age deem it a great privilege to belong to the Bears, Panthers, Tigers, or Bisons.

Control of intramural sports.—Intramural sports should not repeat the history of varsity sports. That record has too many mistakes, failures, and pitfalls. The organization, direction, and control should reside in departmental hands because all sports should be educational. It is important that physical education departments recognize the opportunity for leadership training and be awake to its possibilities, but in no sense should the organization be solely a student affair. Students when left alone to direct an organization of this kind make the usual mistakes and errors that are to be expected from the inexperienced, the immature, and the enthusiastic. These mistakes would be of no moment if they did not seriously imperil the development of the social and moral values inherent in sport. These values require wise direction if they are to be secured. The control, direction, and supervision may reside in the faculty and yet the wholesome support of the student body may be secured.

The intramural committee reporting on this phase of the problem gives the following question and answer:

To what extent are intramural activities directly and actively controlled by physical or athletic department methods?

Entirely	79	61%
Partially	36	28%
Not at all	9	7%
Intercollegiate coaches only	4	3%
Total replies	111	

Sports-for-all requires equipment and support.—Educators frequently indulge in the intoxicating game of condemning intercollegiate or interscholastic athletics and treat their audience to the needs of a program of athletics for all. It is important to understand that just as modern industrial life, modern government, and modern education

are demanding and are setting new standards for equipment and support in order to carry out new programs, so in the physical education field it is true that athletics for all will remain only a phrase to conjure with unless definite and intelligent effort is given to providing ways and means for the richer program. The intramural committee reports on the drawbacks encountered in developing the intramural idea:

1.	Lack of facilities	87 – 65%
2.	Lack of funds	80 – 59%
3.	Lack of adequate supervision	58 – 43%
4.	Heavy class schedule	56 – 41%
5.	Self support (students earning their expenses)	49 – 36%
6.	Counter attractions	43 – 32%
7.	Lack of student interest	31 – 23%
8.	Students at home in large cities	26 – 19%
9.	Other reasons	15 – 11%
10.	Faculty opposition	12 – 9%
	Total institutions replying	134
	Total answers	434

Items 1, 2, 3, 4, 10 are problems of concern to the institution as a whole. Items 6 and 7 are of primary concern to the department of physical education. It is their failure if counter attractions and lack of interest are interfering with a successful program. Items 5, 8 and 9 may be determined variously.

The future for intramural sport.—The intramural committee finds that 72 per cent of the institutions report progress, and especially along the items of student interest and participation. In short physical educators are working on the job that touches them most directly. Support from the faculties and provision of needed equipment and facilities surely will be forthcoming.

The future will be determined to a large degree by the members of the intramural committee who are so defi-

nitely working on this problem. Their conclusions and recommendations, therefore, seem worth while:

Conclusions.

1. Physical directors in general are but little interested in intramural sport, being usually advocates of intercollegiate athletics or gymnastics with a limited idea of the educational possibilities involved in mass athletics.

2. Intramural sport in many colleges has made great strides forward. This has been true at Amherst, Michigan, Princeton, Cornell, Ohio State, Wisconsin, Illinois, California, Texas, Texas A. and M., and others.

Although it has been of great service in bringing out men for competitive physical exercise and recreative sports, its possibility in regard to universal participation for the attaining of ultimate physiological, social, and moral values has not been realized as yet even approximately except in rare instances. Until further facilities and supervision are provided, the quantity of intramural sport cannot be greatly increased in some institutions, but in the majority of cases the field is far from covered. The quality can be attained by a definite exercise requirement for every student.

3. Strict, intelligent, enthusiastic direction and leadership is necessary. Such direction and leadership is in its full sense a one man job. The man needs ample facilities and much real assistance to work out the best values. With proper ability, funds, enthusiasm, coöperation, and facilities one man can interest a large part of a given student body in valuable intramural sport.

4. Intercollegiate athletics by furnishing funds, facilities, incentive, and direction has done more than any one thing to make possible to the leaders in physical education the present development of intramural sport. This intercollegiate relationship is especially true west of the Alleghenies.

5. Intramural sport has been held back by lack of vision, information, funds, facilities, and enthusiastic leadership.

6. General conclusion. Intramural athletics is not advanced as a complete system of physical education. It will reach its greatest value as a part of the graded system of required physical training in colleges. It will add to the more formal work social and moral factors, enthusiasm, and competitive zest.

Recommendations.—There should be:

1. A physical education and recreation requirement of at least two hours per week for every student throughout his college course to include the competitive and recreative element of well supervised intramural sport.

2. Definite promotion of intramural fighting games and activities, e.g., boxing, wrestling, soccer, basketball, football, etc.
3. Assignment of one capable and enthusiastic man in each institution to the position of director of intramural sports.
4. Definite, continued, and enthusiastic promotion of mass and group athletics until the idea is thoroughly implanted as a part of our system of physical education.
5. An adoption of the ideas contained in this report, wherever they may be of local practical application whether inside or outside of colleges.

Athletics in the army as intramural sport.—The trend in modern physical education to seek natural activities that have functioned in the life of man and have played a part in producing the kind of being that man is, shows in the program of training given the youths who were sent into the training camps in the summer and fall of 1917. The old formal systems found no place. The setting up drill was retained but modified from time to time and to-day it has less sanction in the army than before the war. In 1919 a general order required all officers to participate in athletics, sports, or gymnastics one hour a day.

To illustrate the type of training used in the army and in the many military camps for boys of high school age and to suggest thereby the sort of organization of mass athletics that is possible, the following report of activities (Fig. 12) carried on at the military training camp at Peekskill, New York, in the summer of 1917, is presented in full. About eighteen thousand boys were given regular daily systematized sport, well organized, but withal spontaneous and interesting. This organization in reality is intramural in the sense that it includes all. The school or college that will promote such an organization for sports will find the usual three hours a week in the gymnasium entirely unsatisfactory.

The instructions were of such character that details were cared for; the organization presented a smooth

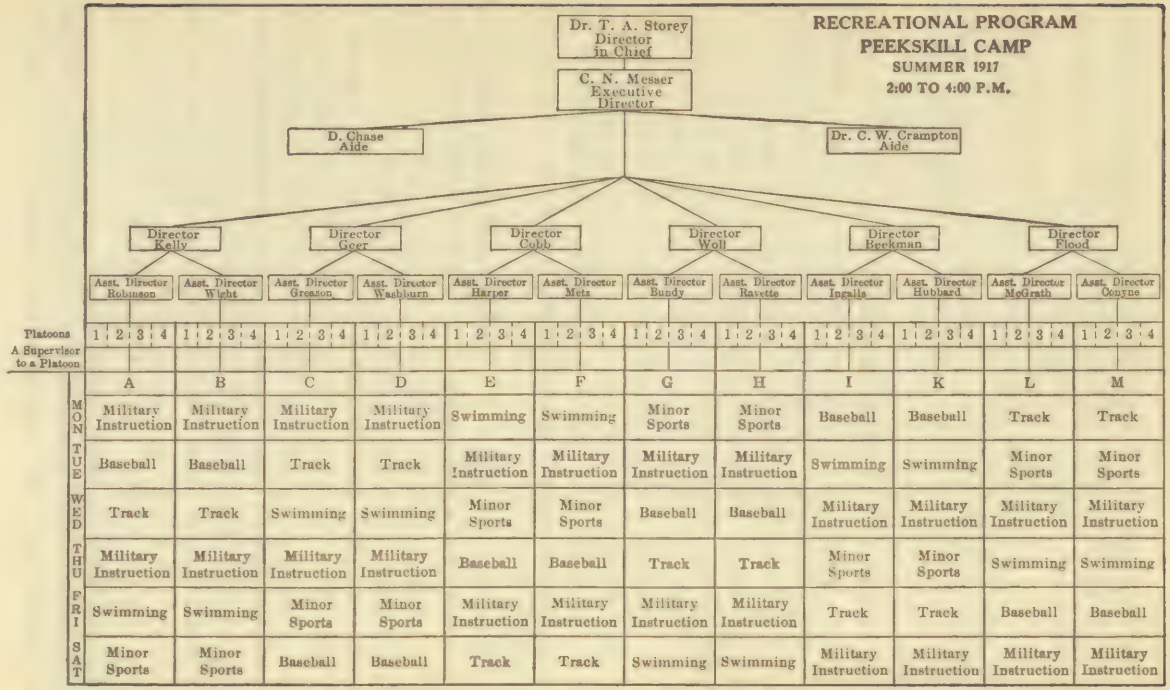


Fig. 12. Diagram of the recreational program, Peekskill Camp, 1917.

running machine and efficiency was achieved. Abstracts from sheets of directions show the following:

TRACK

Events.

1. Dashes—30 minutes
2. High jump—30 minutes
3. Broad jump—30 minutes
4. Shot put—30 minutes

Method.

1. Athletic unit is platoon.
2. Know rules and how to teach events. (If you do not, see your assistant director or director for instruction.)
3. Squads change places every thirty minutes.
4. Don't practice all the period. Spend time on instruction, study of rules, technique, etc.

Program.

First week—Practice.

Second week—Badge test (test each platoon) using standards set in state training syllabus.

	No Points	50 Points	100 Points	Basis of Scoring
100 yards	14⅘ sec.	12⅘ sec.	10⅘ sec.	⅕ sec. 5 pts.
R. broad jump	9 ft. 10 in.	14 ft.	18 ft. 2 in.	1 in. 1 pt.
12-lb. shot put	15 ft.	27 ft. 6 in.	40 ft.	1 ft. 4 pts.
R. high jump	3 ft. 3½ in.	4 ft. 4 in.	5 ft. 4½ in.	1 in. 4 pts.

Third week—Platoon meets within same company.

Fourth week—Dual company meets.

Last day—Big intercompany meet.

DAILY VOLUNTARY SWIMMING PERIODS FOR COMPANIES

	MON.	TUES.	WED.	THURS.	FRI.	SAT.
4.00.						
4.30.	G-D A-B	A-B C-D	E-F I-K	A-B C-D	L-M I-K	L-M C-D
4.30.						
5.00.	G-H L-M	G-H E-F	L-M G-H	E-F I-K	G-H E-F	A-B I-K
5.00.						
5.30.	I-K	L-M	A-B	G-H	C-D	E-F

1. Roll call to be made on beach before and after swimming periods. Each supervisor checks his own platoon.

2. Life-saving squad of twelve of the best swimmers to be chosen from each company.
3. Non-swimmers to be separated and put into groups for instruction.
4. Swimmers can practice events.
5. *Events:* 25-yard—breast stroke, free style; 50-yard—breast stroke, free style; relay; special events.

Program

First week—Testing.
Second week—Intracompany meets, life-saving instruction.
Third week—Dual meets between two companies.
Fourth week—Final practice for big intercompany meet.

Minor Sports

1. Hiking
2. Tennis
3. Basketball
4. Quoits
5. Volley ball
6. Handball
7. Soccer

Duties of Recreational Officers

1. *Executive Director*, G. N. Messer. Responsible for the operation of the recreational program.
2. *Special Activity Directors.* Baseball, Mr. Kelly. Track, Dr. C. Ward Crampton. Swimming, Mr. Geer. Minor sports, Dr. Cobb.
3. *Directors.* Know the schedule. Instruct the assistant directors. Responsible for the operation of the recreational program for the two companies to which he is assigned.
4. *Assistant Directors.* Know the schedule. Understand the game. See that the supervisors are instructed and that they are provided with equipment. Responsible for the operation of the program for the company to which he is assigned.
5. *Supervisors.* Know the schedule. Know the rules of the game or where to get them quickly. Organize platoon teams equitably under direction of the assistant director of the company. Get acquainted with each boy in the platoon and keep track of him in a friendly way. Make clean sport easy and attractive to the boy. Responsible for the operation of the program for the platoon.

Recreational clubs—purpose.—Recreational clubs are groups of boys or girls who meet after school, usually two

or three afternoons and Saturday, to participate in games, to study nature, to go on hikes, to go camping, and to engage in wholesome, natural activities in general recreational forms. A great impetus to recreation was given by the various organizations furthering morale in the army during the war. The idea is being developed to-day in industry (2). The school is the logical place for extensive development.

Girls' clubs as well as boys' clubs are formed and carry on similar activities. The leaders of clubs of this kind are special teachers, engaged for this work. At times they are regular teachers in the school who see the wonderful opportunities for body building and character training, and at times the physical education teacher heads the work with pupil leaders only. There is no reason why this last arrangement could not be worked out if the physical education teacher had time properly to administer the organization necessary and to supervise the activities with all the care that is involved in the training of leaders. In the opinion of Professor Snedden (3) "'pupil leaders' should head all squads. Certain forms of regimentation will be essential, but only the colonels, let us say, need be salaried officers; from corporal to captain voluntary leaders, often changing, should be utilized."

Program of Horace Mann recreational clubs.—Club work in the Horace Mann Elementary School is devoted mainly to outdoor games and hikes, with weekly indoor meetings to determine the program for the clubs. It should be remembered that self determination as a principle is important and valuable in club organization even though its value in international arrangements is not a settled question. As typical of the programs of all the clubs the following outline of activities selected by fifth grade boys is presented:

1. *Indoor group*
   This part of the program is concerned with:
   a. Club essentials, such as club purpose and promise, club spirit, club leadership, club obedience, and club recognition
   b. Games (indoor for rainy days)
   Standards for accomplishment are set.
   c. Rope work
   Learn to tie different knots, animal ties, to throw a life line, etc.
   d. Originals
   Write a story about a hike, devise a song or yell, or suggest some plan for club improvement.
   e. Exercise and hygiene
   In this group are included tumbling, daily habits of exercise, and personal hygiene.

2. *Playground group*
   Different standards are set up and marks to be reached in games, track events, first aid, and various safety measures.

3. *Nature lore group*
   Here the boy is stimulated to achieve ability in reorganizing, collecting and knowing the habits of objects in nature. The list includes trees, flowers, birds, rocks, insects, and animals.

4. *Camp craft group*
   The arts of signaling, firebuilding, cooking, reading, and traveling by compass are the chief standards, detailed as regards rules and procedure.

5. *Coöperation group*
   This group includes many activities developed on hikes, on the playground, in dramatics, and in club practice (parliamentary procedure).

The club idea gives activity and if the supervision is effective and intelligent the results flowing out of the activity are wholesome. There will be normal physical development, awakened and satisfying mental action, and desirable social attitudes and responses.

Girls' recreational clubs.—The possibilities in group organization to enrich the play life of the child are tremendous when the club idea is well developed. The

girls' clubs of the Horace Mann Elementary School have developed splendid ideas and point the way to the opportunities in this field.

During 1920, Grades III and IV were combined in one club under a club leader trained in physical education. Working with the girls, the group decided to keep a record of the activities of the club members and record on a chart the gains made by each member. For this purpose the girls selected certain animals and then decided what characteristic qualities the animals possessed that would be worth striving to gain. At meetings of the club each

	DOG	SQUIRREL	CRICKET	ELEPHANT	BEAVER	FISH	BEE	DEER
	Faithful Loyal True Affectionate Sincere Obedient Forgiving Acknowledge Wrong Courageous	Quick Alert Friendly Thrifty	Happy Cheerful Clean Trim	Patient Enduring Calm Peaceful Conscientious	Industrious Earnest Always to Complete Things Started	Minnow See Swimming Tests	Willing Workers Helpers Persevering Cooperative Do Well Know How Considerate	Active Ready On the Watch Careful
Name								
	III	I	II		I	I		
			I	III			I	I

Fig. 13. The criteria were determined by the girls. Such procedure favors coöperation and enthusiastic support.

member was discussed as to her improvement in play and other club activities and if one showed marked ability she was awarded a stripe. After three stripes were earned under any heading, the head of that animal was placed on the chart. The record kept in chart form and retained in the club room served as a constant stimulus to the members to develop certain qualities. The diagram in figure 13 gives the animals selected and the qualities belonging to those animals which seemed worth striving for to the girls.

The names of the club members are entered in the appropriate column. Whenever a member is voted by

the club to possess and show qualities as listed above a mark is placed under the animal indicated. When three marks are received the member receives the honor of having the head of the animal entered on the chart.

This type of chart is very valuable for developing certain desirable attitudes. It should be supplemented with other charts giving specific things to accomplish, such as lighting a fire with only two matches, making a blanket roll, etc.

The emblem of the fish was won by successfully passing the test for swimming that was worked out in progression and used by all the clubs. The minnow qualifications were set for the third and fourth grade club.

SWIMMING TESTS
(arranged in progression)

Minnow

1. Swim ten strokes
2. Swim one stroke, face under, three over, two under
3. Jump from edge of pool into water up to shoulders
4. Swim breast stroke (fair form)
5. Fetch up puck (water waist high)

Perch

1. Swim across pool (thirty feet)
2. Swim across pool, alternating face under three and over three
3. Jump from edge and swim across
4. Swim breast stroke (good form)
5. Swim side stroke (fair form)

Pickerel

1. Swim length of pool (sixty feet)
2. Swim side stroke (good form)
3. Dive at deep end
4. Pick up puck from deep end, three times
5. Know three strokes and tell when each is to be used
6. Float, turn over, swim length of pool
7. Swim under water eight strokes
8. Swim on back sixty feet
9. Demonstrate breast, crawl, and side strokes (on land)
10. Demonstrate in water two methods of carrying

Salmon

1. Swim four lengths of pool
2. Dive from second step (about five feet from water)
3. Tread water one minute
4. Turn somersault in water
5. Swim three standard styles in good form (side, overarm, crawl, breast)
6. Demonstrate (on land) five methods of release from a person
7. Demonstrate (in the water) two methods of release from a person
8. Demonstrate (in the water) three methods of carrying a person

Shark

1. Swim eight lengths of pool
2. Do three standard dives
3. Do two fancy dives
4. Dive into seven feet of water and bring up five pound weight
5. Swim twenty yards carrying person of own weight. (Demonstrate three methods)
6. Demonstrate (in the water) three methods of release
7. Dressed—swim sixty yards—undress in deep water
8. Teach one person how to swim
9. Teach one person how to dive
10. Demonstrate entire method of Schaefer resuscitation. Pass written test
11. Throw a life line
12. Throw a life buoy
13. Demonstrate racing turn

These tests represent very graphically the club idea—standards and competition. The results are sustained interest, active participation, and hence generous growth.

The different clubs evolved different programs in accordance with the characteristics of the group. The fifth and sixth grade club worked along three lines, as indicated below:

1. *Honor chart*

   This chart was evolved from the scout idea and used, in modified form, honors selected from the manuals of the Camp Fire Girls and the Woodcraft League.

2. *Science club*

   Charts earned here are of value chiefly as they relate to out-of-door activity.

3. *Nature study*

The study of nature produced three projects:

a. Bird project—developed through sunrise bird hike, record on chart of birds seen and recognized, visits to headquarters of the Audubon Society and natural history museum.

b. Flower project—developed by trip to country with selection and study of wild flowers, and by record on chart of flowers as they appeared in the spring.

c. Tree project—developed by watching the budding of trees and placing on chart record when buds are seen. The tree chart contained name of the tree, place found, date, and name of the finder.

The high school girls were organized into Girl Scout troops. Regular Scout programs were carried out.

Camping and hiking activities.—The Boy Scout and Girl Scout movements have brought a program to the boy and girl that touches at once natural instincts and real desires. Participation in that program yields many values not the least of which is interest in physical education. The school without a Scout organization is missing rich opportunities for development of desirable traits of character, health habits, and interest in wholesome forms of recreation.

Hiking parties may be organized for Saturdays and camping parties for longer periods at vacation times. Dr. Stecher, Director of Physical Education, Philadelphia, has developed hiking in the program of the Wanderlust clubs. Work for country children needs extensive development. What can be done for this large group of our population is indicated by Scudder (4) in his description of the play picnic. The department of recreation of Oakland, California, has developed splendid camping opportunities for the community. In some schools groups go to a school camp for Saturday and Sunday. Dartmouth College has received as a gift from an alumnus a group of camps surrounding Hanover and situated about a day's hike from the college. It may be expected that the public school, as well as

private school and college, will foster the establishment of school camps.* This public school field is taken care of in part by the Scout movement, but even this splendid organization is not providing all that is needed in this respect. To enlist more completely in wholesome forms of recreation** the high school boy and girl in the adolescent years is of great moment (5). Cromie (6) has presented valuable material that is extremely useful for large groups.

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CHAPTER ELEVEN

Excuses, Substitutions, Credit, Attendance, Roll Taking, and Grading for Physical Education Classes

Excuses from requirement in physical education.—There are unfortunate individuals with chronic heart disease, orthopedic deformity or defect, and other physical handicaps who are unable to pursue the school requirement in physical education. This situation should be handled carefully and thoughtfully. The practice of granting an unqualified excuse is not to be approved because often these individuals are able to satisfy a modified requirement that would be beneficial to them. Because of their physical condition they have probably been excused from responsibilities all their lives. It is important therefore that whenever possible these individuals with physical handicaps be held up to a requirement exacting in the sense of responsibility involved but modified to meet the physical limitations of particular cases.

Such procedure assumes that the director or person in charge is a physician or has the advice and coöperation of medical service in handling such cases.

Excuses given by the family physician.—One of the most troublesome problems with which the director of physical education has to deal is the excuse from the requirement in physical education given by the family physician. These excuses are often based on the poor physical

condition of the individual and are frequently unjustified. Wherever this practice is accepted by the director, the percentage of such excuses will be high. Whenever a system is devised to meet and overcome this practice, the number of applicants even will be greatly lessened.

Two methods are available for solving this administrative problem: 1. If the director is a physician, he may reserve the right to pass upon the fitness of the student for the required work. If he handles the problem tactfully, he need not stand upon his authority in this respect but by coöperation with the family physician he can eliminate all fraudulent excuses and secure in addition real insight into the student's condition by receiving valuable information from the family physician. The following blank used at the University of Cincinnati indicates a desirable form to be filled by the family physician:

UNIVERSITY OF CINCINNATI

Department of Hygiene and Physical Education

HEALTH EXAMINATION

This blank is to be filled out by a physician* and sent by him directly to Dr. Jesse Feiring Williams, Professor of Hygiene and Physical Education.

To the Professor of Hygiene and Physical Education:

I have this day given M.....
a careful physical examination and find h.....in.....health.
The lungs are.....
There are.....signs of pulmonary tuberculosis.
The heart is.....
The abdominal viscera are.....Hernia.....
The condition of the nose and throat is.....
The condition of the nervous system is.....
Are there symptoms of eye-strain?.....
The skin is.....
Are there orthopedic diseases or defects present?.....
The posture is.....
Are there any abnormalities from injuries?.....

*In answering questions, please use the term *negative* where the condition is normal. Do not leave the space blank.

Do you consider the applicant in a state of health to stand the test of college work?.....

As a result of the foregoing examination or previous knowledge of the applicant's health, have you any suggestions that may help the department in assisting the applicant to develop and maintain a high standard of physical efficiency?.....

.....

.....

.....

.....

.....

Signature.....*M. D.*

Date..... Address.....

It is very desirable that your family physician attend to this examination.

2. When a physician is not available for departmental work the number of fraudulent excuses may be decreased by organizing a method for reporting the excuse through the principal or president of the institution and throwing back upon the physician the responsibility of excusing the student to the head of the school and not in a general way to the "gym teacher." A splendid method has been described as follows: (1)

This form of excuse is in three parts, consisting of: First, a letter sent by the director of physical training to the school principal, stating that Miss.....believes herself physically unable to take the required work and wishes to be excused; second, a letter from the principal to the girl's family physician; and third, a space for the physician's letter, which must be returned by mail to the principal.

SPRINGFIELD HIGH SCHOOLS

Springfield, Massachusetts

DEPARTMENT OF PHYSICAL TRAINING FOR GIRLS

AMY R. HILL, Director

Mr......

Principal.....High School

DEAR SIR:

The bearer, Miss.....believes herself physically unable to do the required work in physical training.

Such work for her would consist of one hour per week of one of the following out-of-door sports:..... during September, October, May, and June, and two periods per week of gymnastics and dancing from November to April, inclusive.

Miss.....'s physical examination shows.....
Yours very truly.

.....19.... .....Director.

Dr......

Dear Sir:

In the following blank will you kindly give your professional opinion concerning the bearer's health and ability to do *all* or *part* of the required physical work mentioned above?

Please specify any organic or functional disease from which she is suffering. All information will be considered strictly confidential.

If you consider some form of individual work would be more beneficial in this case, the director will be glad to confer with you at any time you may name.

Please return this blank to me by *mail.*

Yours very truly,

.....19.. .....Principal.

Physician's Certificate

Certificate accepted ....., 19.. .....Principal.

It is reported that the use of the above method at Newton, Mass., has reduced the number of excuses 50 per cent. This form is in use in Boston and other New England cities.

The same general type of blank is used in New York State. It is superior in the form to be filled out by the family physician.

The University of the State of New York
The State Department of Education

May 20, 1920

To Directors of Physical Education:

Outlined below you will find a suggested letter that may be found helpful in securing coöperation of family physicians. Your superin-

tendent may be interested in having you do something similar. We also inclose a suggested form of report blank for the physician to return.

Hoping that this may be of some use to you in your work for the physically handicapped children and with the problem of unnecessary excuses from regular classes, I am

Very truly yours

DANIEL CHASE

Acting Supervisor of Physical Education

DEPARTMENT OF EDUCATION

Office of the Superintendent of Schools

.....19....

Dr.....

.....

MY DEAR DOCTOR:

Your request that.....be excused from physical training is before me.

All pupils in our schools take work in physical education as required by the program of the Regents of The University of the State of New York.

The work includes a large number of mild exercises which are intended to improve posture, and do not accelerate the heart or materially affect the blood pressure, besides heavy exercises, involving considerable vasodilation and increased heart rate. In addition to these exercises, all pupils receive practical instruction in hygiene. Recreational games and rhythmic activities are provided through which many valuable social and moral qualities are inculcated as well as grace of movement and muscular coördination developed. We believe every pupil able to attend school should be allowed to receive some of the benefits from this work.

Would you be so kind as to furnish the director of physical education on the attached blank such details of diagnosis as you consider pertinent, and let him know as fully as possible what class of our work you deem it necessary to modify or eliminate, and what other precautions should be exercised?

Your communications will be held in professional confidence, and your fullest coöperation is solicited.

.....

Principal

.....

Director of Physical Education

Director of Physical Education
Department of Education

DEAR SIR:

Will you kindly adjust the program of physical education of .....a pupil in.....
School, in accordance with schedule below, on account of (diagnosis)
.....
.....
.....
.....

There should be special emphasis placed upon exercises leading to the improvement of

	Yes	No
Drooping head	.....	.....
Flat chest	.....	.....
Round shoulders	.....	.....
Uneven shoulders	.....	.....
Flat feet	.....	.....
. . . . .	.....	.....

The following features of physical training work should be emphasized:

1 Vigorous trunk, leg, back, shoulder exercises (for local and general weakness) Yes No
(Specify).....
2 Exercises to relieve chronic constipation. Yes No
3 Exercises increasing neuro-muscular control and coördination (for cases of motor ineptitude or dullness) (*Note:* These exercises are mild and do not increase heart rate, or materially affect blood pressure) Yes No
4 Recreative exercises: play etc., with little attention strain (to be emphasized in cases neurasthenic tendency) Yes No
5 Other features of exercise to be emphasized:.....
.....
.....

The following are contra-indicated: (mark below)

Omit

..... 1 Exercises causing marked increase in heart rate
..... 2 Exercises of the trunk
..... 3 Exercises involving mechanical jar (jumping)
..... 4 Exercises increasing abdominal tension (hernia cases)
..... 5 Exercises of the legs
..... 6 Exercises of the arms

Specific recommendations regarding the above exercises:.....
.....
.....

Recommendations in regard to stair climbing:.....
Other recommendations and remarks:.....
Pupil should report to me again in.....weeks, about (*date*)....
.....
[*Telephone no.*]..... [*Signed*].....M. D.
[*Address*].....

Substitution of other work for the requirement in physical education.—It should be held as a policy of the department that no excuse can be accepted in the sense that the required work can be missed unless other work approved and definitely prescribed be substituted for it. This applies in principle to pupils excused by the family physician because they dislike the work or are physically unfit, or excused by reason of illness or accident. The attempt should be to develop a sense of responsibility for meeting the requirements in an institution of which the student is a part and while aiming at that end, the director should provide a method for controlling those individuals who do not respond.

Different kinds of substitutions are at present allowed. Not all of them can be approved.

1. Substitution requirement in some schools provides that the student must read a minimum number of hours on assignments in hygiene and physiology and pass an examination. This substitution is vicious. Too frequently it means that students whose academic program is overloaded already are given an additional burden. It errs also in assuming that the substitution in type or quality is representative, as it should be, of the work missed.

2. Substitution requirement of walking in general is often allowed. It has marked defects if it is applied to all. Walking may or may not be the activity most beneficial. General aimless walking is likely not to be worth much.

3. Substitution requirement of breathing exercises is at times provided. It has no defense at all as a blanket substitution. Breathing exercises are unphysiological in most cases and unless prescribed for individual needs and given special guidance, they are worthless as a substitution.

The only kind of substitution that may be sanctioned is the kind that is made with reference to the needs of the individual. Some of the common needs and desirable ways of substitution are given below:

1. *Heart cases.* These individuals represent two types: organic heart cases and functional heart cases.

The organic lesions are benefited by proper exercises (2). Walks of stated distances may be used and the results carefully watched with reference to modification of the distance, route, or time (3).

The functional cases seen in school fall into two groups:

a. The "adolescent" heart needs exercise up to the point of fatigue. No competition should be allowed.

b. The weak heart, often irregular in rate and force, requires gradually increasing amount of exercise. These cases are at times representative of the group of cases known as disordered action of the heart as seen in the World War. They often are individuals with constitutional inferiority. Their cardiac exercises need careful supervision.

The important point in dealing with these cases is to remember that the heart is a muscle, that it is strengthened by exercise, that inactivity in most cases is harmful, and that the activity must be guided and controlled with reference to individual need and individual response (4). At Barnard College, "weak" heart cases have been improved by swimming as a substitution.

2. *Foot cases.* Individuals seek excuses at times because of weak feet or falling arches.

The substitution for most of these cases is corrective foot exercises. Some very bad cases need other orthopedic treatment but usually such severe cases do not reach the director. McKenzie (3) proposes rational exercises for this condition. The possibility of using exercises in the sitting or lying position should not be forgotten.

3. *General physical weakness.* Individuals often seek excuse from the requirement in physical education because of the type of work offered by the department. No sympathy can be extended a department that requires advanced types of apparatus work for girls, and every sane physician is eager to help the girl escape such "physical training." On the other hand, with a rational program even, it is not unusual to find students with poor bodies as a result of a woeful lack of physical exercise combined with poor hygiene, seeking an excuse. They are not able to do the required work. They need a special class. Such a class should be provided.

Individuals convalescing from a severe disease or from an operation often need a substitution which may for several weeks best be given in the form of walking out-of-doors a stated distance at a stated time.

4. *Girls with uterine-ovarian disturbances.* A considerable number of excuses are offered on the basis of disturbance of the function of menstruation. It is unfortunate that some women look upon a physiological process as something abnormal or unusual. Every effort should be directed to helping the girl achieve a rational point of view on this question. Excuses at the monthly period are discussed on page 245.

Unless there is definite inflammation resulting from infection or displacement, all these cases will be greatly improved by the general effects of moderate exercises combined with special breathing exercises as suggested by Dr. Mosher (5). Dr. Mosher would treat all cases of dysmenorrhea with exercise, but the opinion of most gynecologists would exclude from such activity cases showing inflammation. Bolton (6), Fox (7), and Hollingsworth (8) are worth consideration on this subject.

5. *Cripples.* Individuals who have a healed deformity of the legs or arms may be required to substitute swimming if a pool is available. It is not impossible for a one-armed person to swim and a person with only one leg may accomplish a creditable performance. A substitution in all such cases may be made if the director is interested to do the most for the individual.

Instances of request for substitution of athletics or military drill for physical education classes are not unusual. It is the prevailing opinion to-day that athletics in any or all its forms may be substituted if the individual can pass an efficiency test (see page 56). If he cannot pass the test and the coach desires his attendance, it is customary to sanction the substitution for the particular sport requested.

Military drill presents a different problem. Lessons are to be learned from the effort (9) made so many times and in so many places, to foist military drill upon the school as a substitute for physical education. It can never be a substitute in the sense that it seeks or secures the aims and results of modern physical education. Its substitution should not be permitted unless for very urgent, patriotic, and emergency reasons that require the *time* of physical education

for the purpose of achieving in drill certain formations and company training immediately essential for war.

Administration of special cases.—The trained teacher of physical education should be able to administer the special prescription for foot and spine conditions where special appliances are not required. Cases of heart, lung, utero-ovarian, or post-operative conditions call for direct medical supervision. In no case should the physical educator assume the responsibility for differential diagnosis. Readiness to carry out directions specifically given by the family or school physician may be expected. Selected references (2–8) at the end of this chapter give the special procedure for the usual cases met in the administration of physical education.

Questionnaire data.—A questionnaire (10)* sent to a hundred leading colleges and universities in all sections of the United States showed that students who were physically unfit to do the required work were cared for in the following manner:

1. Excused from work entirely 17.1%
2. Assignment to special classes 45.7%
3. Other methods
   - *a.* Personal consultations 1.9%
   - *b.* Allowed to substitute other credit 2.8%
   - *c.* Left to own devices 1.9%
   - *d.* Walking 1.9%
   - *e.* Special work or excused 24.1%
4. No answer 4.6%

Credit.—The department of physical education should be able to offer work of a character that would warrant credit, either in school or college. With a conception of education as adjustment to life and with modern physical education emphasizing the development of attitudes, ideals, standards of conduct, as well as physical fitness,

* From Department of Physical Education, Teachers College. *Practicum in Physical Education.* Work of Harry A. Scott.

it is becoming more clear that credit toward the A. B. and B. S. degrees in college may properly be given.

Credit for the work of physical education is of value because:

1. It holds the department up to the best standards of administration and tends to develop the content of the offering in the direction of activities that are educative.

2. It requires the selection of the best trained men and women for the position of director and instructors and automatically tends to eliminate the "physical culture" faddist, the professional trainer type, and the inadequately trained graduate.

3. It aids in administering the department with reference to the student body, faculty, and general public.

4. It gives the department a standing in the opinion of the students and hence favors the efforts of the director to broaden the program.

The Commission on the Reorganization of Secondary Education appointed by the National Education Association recommends (10) positive school credit for hygiene and physical education. Its report says:

> The courses in hygiene should receive credit on the same basis as other classroom subjects. The physical practice in gymnastics, athletics, games, and swimming should receive positive credit on the same basis as laboratory courses. The hygiene instructions should be graded on the basis of classroom recitations and examinations. The physical practice should be marked on the basis of the quality of the work and on the effort of the pupil in daily practice. Tests of minimum physical proficiency should be given at regular intervals.

These values have been recognized by an increasing number of schools and colleges and to-day the status of physical education in colleges is higher than ever before.

A survey of a hundred leading colleges and universities shows that positive credit is given in 56.9 per cent;

withheld in 34.2 per cent; negative credit is given in 2.8 per cent. No reply from 6.1 per cent.

Attendance.—Attendance at regularly organized classes of physical education is either voluntary or required. The former, while quite general a few years ago is not a popular method of administration to-day. The requirement of attendance has become the usual rule and is considered more satisfactory because of:

1. The need for all students to participate in a training that while educational in a very real sense is also a healthful procedure. The health reason appeals to most governing boards in deciding the question.
2. The students who need the activities of physical education the most are the ones who would not attend under the voluntary plan.

A questionnaire sent to a hundred leading colleges and universities in all sections of the United States shows for 1920 that physical education was prescribed in 95.7 per cent of the 70 institutions answering the questionnaire. In this 95.7 per cent, the following obtains:

All students	21.4%
Freshmen	10.0%
Freshmen and sophomores	32.8%
Four classes	2.8%
First three classes	7.0%
Other combinations or provisions, such as Liberal Arts, Engineering, etc.	5.6%
No answer	16.1%

The evidence from the selective draft, the extent and character of physical weaknesses in children in the elementary schools, leads to the conclusion that physical education should be required daily in all schools and colleges of the nation. The state laws for physical education are a step in the right direction and the recent advances in requirement of attendance among colleges

is noteworthy. Barnard College now requires physical education all four years of the college course.

Absence and tardiness.—Rules on absences will vary in different institutions. Whatever the rule, it should be applied in the physical education classes with equal force unless there are special considerations. Certainly there are none that warrant general usage.

Make up of absences should be carefully controlled. A certain number of make-ups may be permitted, but opportunity to do in the last two weeks of the term work that should have been done throughout the school session is to be condemned.

Tardiness at physical education classes is to be dealt with according to the local rules prevailing. It is important that teachers help students to keep appointments on time. One important appointment to keep on time should be the hour on the athletic field, in the pool, or in the gymnasium.

Monthly absences.—It is necessary to provide a plan to care for the monthly excuses necessary in girls' and young women's classes. Miss McKinstry* gives a good opinion on this point:

> The giving of necessary temporary excuses for menstruation, etc., can be most satisfactorily handled in the larger schools where some form is needed, by means of excuse blanks filled out before class either by the girls themselves or by an instructor. The prevailing custom now seems to be to allow such excused girls to stay in their study room instead of requiring their attendance as spectators in the gymnasium.

The method used by Miss Florence Stuart for the high school girls of the Horace Mann School is admirable in every respect. During the menstrual period the student is placed on her honor not to participate in her class work in physical education for the *entire* period. This includes

* McKinstry, H. M. "Administration of Physical Education for Girls and Young Women." *American Physical Education Review.* June, 1911, pp. 364–379.

her athletic work and membership in athletic teams. A blank slip, dated, is placed on a desk in the high school office each morning. Students requiring an excuse for that day sign their names there. Later this memorandum is entered opposite the student's name in the instructor's roll book. By this means a very careful menstrual record of every girl in the high school is kept and any irregularities requiring medical attention discovered. Record of excuses shows any attempt to take advantage of the method. The use of more excuses than necessary results in reference of the case to the school physician, or parent. Instances of this are very rare. The students accept the method in a fine spirit. (See references 6, 7, 8.)

Roll taking.—It is important that the rolls in physical education classes be taken carefully and quickly. On the one hand because of the requirement of the subject there must be no laxness and on the other because of the time required for undressing, showers, and dressing, no time must be lost in an administrative phase of the work. There are different methods of meeting different situations. Some are good, others are unsatisfactory. It would seem worth while to state and evaluate them.

1. *Calling the roll of names.* This method is not to be used except in very small classes. It is a time waster. Although it has the advantage of acquainting the instructor with the names, it is of little value in this connection, unless the association of the name and face is made.

2. *Recording absent numbers.* A plan that has the advantage of speed consists in giving each member of the class a number, and at the beginning of the hour having the class respond to their numbers in consecutive order. If a member is absent, the instructor calls that number and records the absence by noting on a pad the number missing. This plan

is rapid and efficient. It tends to the mechanical in that the individuals are known as numbers.

3. *Recording open spaces.* Some administrators follow the plan of having special marks on the floor and requiring the individual members of the class to report on that mark. The marks are numbered and all open spaces are marked absent. This plan is rapid but may limit the instructor greatly in that it requires assembly always in the same place. It represents a rigid method that is followed when the work is always indoor and of the formal rigid type.

4. *Alphabetical plan.* Miss Helen Frost proposes from her successful experience the following plan: The class lines up alphabetically. The instructor takes the roll by walking down the line noting the absences. In only a few days the names and faces are associated. After the roll the class reassembles according to height.

5. *Recording by squads.* The most satisfactory plan is to record by squads. It is rapid. It requires squad leaders and aims at securing development of desirable values in the training of the class. If the method were slow and inefficient it would not be acceptable because at this time in the lesson the need is for speed and accuracy. That it contributes to development of leadership at the same time that it produces quick results in roll taking makes it a very desirable method. It is necessary to have capable substitutes. Girls' classes should have at least two substitutes for each squad leader.

6. *Roll on athletic work.* The roll for athletic squads may be taken by squad leaders, or by the instructor before the class leaves the locker room. The importance of using the administrative machinery

for the development of wholesome attitudes and a sense of responsibility cannot be overemphasized. The students should coöperate to assist in carrying out the program in physical education. The training that will come, under supervision of course, in planning interclass tournaments, varsity schedules, transportation routes, entertainment of guests, can be supplemented by liberal opportunity to exercise initiative and leadership. One instructor of physical education in a large girls' high school writes me as follows: "In most instances the managers are prepared in case of illness of instructor or other emergency to take command and to coach the squads, obtaining the correct attendance list and maintaining discipline." In a very real sense the development of real abilities as indicated in the above quotation, is worth a great deal more even if the attendance were incorrect, than a correct roll under an inelastic, static, formal system.

Grading.—If the work is voluntary and without credit very little attention is paid to grading. Little attention should be given to it in comparison with the effort to be made in other directions.

With credit and required attendance provided for, it is important to establish a stimulating, fair, and functional type of grading. There is at present no uniformity in method or in guiding principles on this point. At the University of Wisconsin "marks are based on excellence of work, improvement in posture and attendance;"* at Wellesley, "on improved carriage, self-control, and better habits of life."* Some schools attempt to grade effort, others grade only performance and measure this by term or year examinations which seek to determine skill, strength, endurance, ability to play games or to dance.

* McKinstry, H. M. Loc. Cit.

Miss Jessie Whitham of Central High School, Detroit, has worked out interesting plans for grading.

It is interesting in this connection to see what is the recommendation on grading in the general educational field. Monroe, De Voss, and Kelly in a recent book (11) show the inaccuracy of school marks by the usual grading system and present the modern methods and scales in use in arithmetic, reading, spelling, handwriting, and language. The grading of pupils in elementary and high school subjects is to-day becoming a scientific process. Nothing in this direction is being attempted in physical education unless the efficiency tests are to be so considered.

It would seem, therefore, important to try to suggest the need in this field and to attempt to point out the direction that work along this line in physical education must take.

So long as health was the only end of the physical education program it was unnecessary to measure motor skill, or the response to situations involving feeling and will. But to-day with modern physical education awakening to its opportunity and responsibility in this respect, there is great need for a statement, scientific and accurate, of the standard performance in age (physiological) groups with reference to certain fundamental motor acts and types of behavior that are accepted to-day as moral and social. Only with the setting up of standards will the work take on the educative character that lies within its range. Without standards, physical education will continue to be judged in terms of dumb-bell drills and perspiration.

The standards set up will probably seek to determine the following:

1. What motor skill in the racial and natural activities of life is common to untrained children in different age (physiological) groups?

2. What motor skill in the racial and natural activities of life is found in trained children in different age (physiological) groups?

Classify with reference to the particular training experienced.

3. What shall be the standard motor performance in certain selected activities?

4. What knowledge of the skill should accompany the skill in any particular and vital motor activity?

5. What response is to be expected of children in different age (physiological) groups to situations involving moral and social values?

These questions indicate some of the vital information that is needed to make the administration of physical education successful in the sense that it provides training that is educating for life. It is to be hoped that the various physical efficiency tests may work toward achieving a rating that will mean something definite in a marking scale for physical education.

SELECTED REFERENCES

1. McKinstry, Helen M. "Administration of Physical Education of Girls and Young Women." *American Physical Education Review*, June, 1911, pp. 364–379.
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2. Lawrence and Adams. "The Organized Care of Cardiac Children." *Hospital Social Service Quarterly*, 1920, Vol. II, p. 151.
   Description of an interesting cardiac clinic in which the children were treated in part by graduated games and exercises.
3. McKenzie, R. Tait. *Exercise in Education and Medicine*, W. B. Saunders Company, Philadelphia, 1917, Chap. XIII.
   An excellent book, complete and authoritative.
4. Lewis, Thomas. *Clinical Disorders of the Heart*, Paul B. Hoeber, N. Y.
   A simple and clear statement by an eminent clinician.
5. Mosher, E. *Health and the Woman Movement*, The Woman's Press, 600 Lexington Ave., New York, 1918, pp. 20–21.
   A very valuable book. Not in harmony in all statements with the experience of most gynecologists.

6. Bolton, Florence. *Exercises for Women*, Funk and Wagnalls, New York, 1914, p. 63.
Gives exercises for painful menstruation.
7. Fox, Fortescue R. *Physical Remedies*, Wm. Wood & Co., New York, 1914, Chap. IX.
A good treatment of the use of physical therapeutics.
8. Hollingsworth, Lita. "Experimental Study of the Mental and Motor Abilities of Women during Menstruation." *Teachers College Record*, New York, 1914.
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9. Bibliography on Military Drill. *Teachers College Record.*
A very useful compilation of the articles pro and contra military drill in the schools. This battle is fought before and after every war.
10. Commission on Reorganization of Secondary Education. *Physical Education in Secondary Schools.* Publication of the Department of the Interior (Bureau of Education, Bulletin, 1917, No. 50, p. 18).
An important report.
11. Monroe, De Voss, and Kelly. *Educational Tests and Measurements*, Riverside Testbooks in Education. Houghton Mifflin Company, Boston, 1917.
Simple and clear treatment of educational tests and measurements.

CHAPTER TWELVE

Determination of the Health of Students and the Efficiency of Physical Education Procedure

A statement of the problem.—Simple and definite scales* have been worked out for the estimation of handwriting and composition. There is no satisfactory measuring scale for determining the health condition of the child. Even experts in child hygiene disagree and the lack of uniformity in judgments of health by physicians is common knowledge. Formerly in physical education great pains were taken to secure anthropometric data in the examination of students and while those who led in the movement knew that such data had only anthropological significance, the general impression among students was that the examination gave a health status. The boy who could chin the greatest number of times or who held the school record in lung capacity was considered to be in the best physical condition.

This tendency has changed. The emphasis to-day is upon the determination of abnormal organic or functional conditions. To this end there have been suggested certain tests that are valuable and that indicate the direction of the inquiry to be made. To-day also there is considerable interest in physical efficiency tests. The effort in this respect is to learn what the motor mechanism can do, not in lifting weights, but in activities requiring coordination, skill, endurance, and strength combined in

* Thorndike, E. L. "Teachers Estimate of the Quality of Specimen of Handwriting." *Teachers College Record.* November, 1914.
Hillegas, Milo B. "A Scale for the Measurement of Quality in English Composition by Young People." *Teachers College Record.* September, 1912.

varying degrees. We shall discuss the tests for health first and later the tests for physical efficiency.

Estimation of Health

The day for anthropometry in physical education is past. Less and less attention will be devoted to it in the future. The emphasis will be upon dynamic and functional tests that indicate health, vital power, physical efficiency.

It is impossible to present a scheme for health examination that will meet all conditions or satisfy all examiners. The attempt will be made to indicate what seems to be the more important items in the health examination with a brief description of method.

Nutrition.—The health commissioner of New York City states in the public press in November, 1919, that over 30 per cent of the school children of New York show malnutrition. Malnutrition as a condition of under nourishment and low vitality is widespread among all children and compromises the health and development of the individual as a child and also as an adult. Its ravages are seen even late in life. It is important, therefore, to be able to measure nutrition and to classify and care for malnourished children.

The test that is most satisfactory is the Dunfermline Scale (1). It was adopted for use in New York City, December 1, 1915, by the Bureau of Child Hygiene. The basis of the scale as devised by Dr. Alister McKenzie, consists of four groups in which the children are distinguished:

1. "Excellent" means the nutrition of a healthy child of good social standing.
2. "Good" means the nutrition that just falls short of this standard.
3. "Requiring supervision" are children on the borderland of serious impairment.
4. "Requiring medical treatment" are children whose nutrition is seriously impaired.

The four groups above are valuable in the hands of examiners who have an appreciation of good nutrition. The directions of Dr. McKenzie (1) and Sir George Newman (2) in this connection are important. McKenzie says:

The general appearance of the child, the condition of the skin and subcutaneous tissues, the muscular tone and development, the state of the mucous membranes, the vigor or listlessness that may appear in the child's facial expression, carriage, movements, voice, interest, attention—all contribute to our decision.

According to Newman:

Sound nutrition is a general physiological condition which connotes a healthy body in all respects and the good tone and health of its various constituent parts, its brain and nervous system, its muscular, digestive, circulatory, and lymphatic systems. All this means that we must take a wide and comprehensive view of nutrition, which is a state revealing itself in a variety of signs and symptoms. Thus in endeavoring to estimate a child's nutrition or its opposite (viz., malnutrition), we must think not only of bulk and weight of body but of ratio of stature to weight; of the general balance and "substance" of the body and of its carriage and bearing; of the firmness of the tissues; of the presence of subcutaneous fat; of the condition and process of the development of the muscular system; of the condition of the skin and the redness of the mucous membranes; of the nervous and muscular systems as expressed in listlessness or alertness, in apathy or keenness; of the condition of the various systems of the body, and, speaking generally, of the relative balance and coördination of the functions of digestion, absorption, and assimilation of food as well as of the excretion of waste products. It is obvious that these are data which are likely to lead to a much more reliable opinion than the consideration of any one factor or ratio, however expeditiously obtained or convenient in form or practise, and these data will demand a wider as well as a more careful and accurate observation of the whole physique of the child. Nor can an ultimate opinion always be formed at one inspection at any given moment. For nutrition, like its reverse, malnutrition, is a *process* and not an event. In regard to diagnosis, therefore, the school medical officer has as yet neither an absolute standard of nutrition nor a single criterion to guide him. He must form a considered and careful opinion on all the facts before him.

Manny* proposes the following classification for index of nutrition and growth:

* Manny, Frank A. "Indexes of Nutrition and Growth." *Modern Hospital.* November, 1916, p. 425.

1. Excellent condition (a state of health that would be accounted "excellent" in favorable social conditions).
2. Good condition.
3. Defective, but can be cared for adequately under present home and school conditions.
4. Defective and requiring some degree of segregation for observation and control purposes, such as could be accomplished in a well organized open air or other special classroom.
5. Defective and requiring such complete control as can best be given in an institution especially equipped for that purpose.

Dr. M. C. Schuyten, of Brussels, gives in the Proceedings of the Fourth International Congress on School Hygiene (3) Oppenheimer's scale for measuring general physiological condition with emphasis on nutrition. He used it to determine the vital efficiency of children. It would be fitting to ask, "What is meant by vital efficiency?" The test is conducted by measuring the circumference of the upper arm (centimeters), multiplying by a hundred and dividing the product by the chest girth at the end of the expiration following an average inspiration. Expressed graphically it would be

$$\frac{\text{Girth upper arm} \times 100}{\text{Girth chest in expiration}} = \text{Coefficient of vital efficiency.}$$

The standards set are excellent, 29 and above; good, 26 to 28; poor, less than 26.

Charts for children. The malnutrition problem is a serious one in children. It has been said that childhood suffers from lack of food of sufficient amount and proper quality, while adults suffer from too much food.

The effort to arrive at a simple, easy, and effective method of determination of malnutrition has resulted in one direction in the charts on pages 256 and 257, prepared by Dr. Thomas D. Wood. It has been found satisfactory to classify as malnourished any child ten pounds or more underweight, and as overnourished, any child ten pounds or more overweight according to the tables. The use of

HEIGHT AND WEIGHT TABLES

BOYS

Height Inches	5 Yrs.	6 Yrs.	7 Yrs.	8 Yrs.	9 Yrs	10 Yrs.	11 Yrs.	12 Yrs.	13 Yrs.	14 Yrs.	15 Yrs.	16 Yrs.	17 Yrs.	18 Yrs.
39	35	36	37											
40	37	38	39											
41	39	40	41											
42	41	42	43	44										
43	43	44	45	46										
44	45	46	46	47										
45	47	47	48	48	49									
46	48	49	50	50	51									
47	....	51	52	52	53	54								
48	....	53	54	55	55	56	57							
49	....	55	56	57	58	58	59							
50	....	....	58	59	60	60	61	62						
51	....	....	60	61	62	63	64	65						
52	....	....	62	63	64	65	67	68						
53	....	....	....	66	67	68	69	70	71					
54	....	....	....	69	70	71	72	73	74					
55	....	....	....	....	73	74	75	76	77	78				
56	....	....	....	....	77	78	79	80	81	82				
57	....	....	....	....	....	....	81	82	83	84	85	86		
58	....	....	....	....	....	....	84	85	86	87	88	90	91	
59	....	....	....	....	....	....	87	88	89	90	92	94	96	97
60	....	....	....	....	....	....	91	92	93	94	97	99	101	102
61	....	....	....	....	....	....	....	95	97	99	102	104	106	108
62	....	....	....	....	....	....	....	100	102	104	106	109	111	113
63	....	....	....	....	....	....	....	105	107	109	111	114	115	117
64	....	....	....	....	....	....	....	....	113	115	117	118	119	120
65	....	....	....	....	....	....	....	....	....	120	122	123	124	125
66	....	....	....	....	....	....	....	....	....	125	126	127	128	129
67	....	....	....	....	....	....	....	....	....	130	131	132	133	134
68	....	....	....	....	....	....	....	....	....	134	135	136	137	138
69	....	....	....	....	....	....	....	....	....	138	139	140	141	142
70	....	....	....	....	....	....	....	....	....	....	142	144	145	146
71	....	....	....	....	....	....	....	....	....	....	147	149	150	151
72	....	....	....	....	....	....	....	....	....	....	152	154	155	156

MEN

Height	19 Yrs.	20 Yrs.	21–22 Yrs.	23–24 Yrs.	25–29 Yrs.	30–34 Yrs.	35–39 Yrs.	40–44 Yrs.	45–49 Yrs.	50–54 Yrs.	55–59 Yrs.
5 ft.	107	110	114	118	122	126	128	131	133	134	135
5 ft. 1 in.	112	115	118	121	124	128	130	133	135	136	137
5 ft. 2 in.	117	120	122	124	126	130	132	135	137	138	139
5 ft. 3 in.	121	124	126	128	129	133	135	138	140	141	142
5 ft. 4 in.	124	127	129	131	133	136	138	141	143	144	145
5 ft. 5 in.	128	130	132	134	137	140	142	145	147	148	149
5 ft. 6 in.	132	133	136	138	141	144	146	149	151	152	153
5 ft. 7 in.	136	137	140	142	145	148	150	153	155	156	158
5 ft. 8 in.	140	141	143	146	149	152	155	158	160	161	163
5 ft. 9 in.	144	145	147	150	153	156	160	163	165	166	168
5 ft. 10 in.	148	149	151	154	157	161	165	168	170	171	173
5 ft. 11 in.	153	154	156	159	162	166	170	174	176	177	178
6 ft.	158	160	162	165	167	172	176	180	182	183	184
6 ft. 1 in.	163	165	167	170	173	178	182	186	188	190	191
6 ft. 2 in.	168	170	173	176	179	184	189	193	195	197	198
6 ft. 3 in.	173	175	178	181	184	190	195	200	202	204	205
6 ft. 4 in.	178	180	183	186	189	196	201	206	209	211	212
6 ft. 5 in.	183	185	188	191	194	201	207	212	215	217	219

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HEIGHT AND WEIGHT TABLES

GIRLS

Height Inches	5 Yrs.	6 Yrs.	7 Yrs.	8 Yrs.	9 Yrs.	10 Yrs.	11 Yrs.	12 Yrs.	13 Yrs.	14 Yrs.	15 Yrs.	16 Yrs.	17 Yrs.	18 Yrs.
39	34	35	36											
40	36	37	38											
41	38	39	40											
42	40	41	42	43										
43	42	42	43	44										
44	44	45	45	46										
45	46	47	47	48	49									
46	48	48	49	50	51									
47	....	49	50	51	52	53								
48	....	51	52	53	54	55	56							
49	....	53	54	55	56	57	58							
50	....	....	56	57	58	59	60	61						
51	....	....	59	60	61	62	63	64						
52	....	....	62	63	64	65	66	67						
53	....	....	....	66	67	68	68	69	70					
54	....	....	....	68	69	70	71	72	73					
55	....	....	....	....	72	73	74	75	76	77				
56	....	....	....	....	76	77	78	79	80	81				
57	....	....	....	....	....	81	82	83	84	85	86			
58	....	....	....	....	....	85	86	87	88	89	90	91		
59	....	....	....	....	....	89	90	91	93	94	95	96	98	
60	....	....	....	....	....	....	94	95	97	99	100	102	104	106
61	....	....	....	....	....	....	99	101	102	104	106	108	109	111
62	....	....	....	....	....	....	104	106	107	109	111	113	114	115
63	....	....	....	....	....	....	109	111	112	113	115	117	118	119
64	....	....	....	....	....	....	.....	115	117	118	119	120	121	122
65	....	....	....	....	....	....	.....	117	119	120	122	123	124	125
66	....	....	....	....	....	....	.....	119	121	122	124	126	127	128
67	....	....	....	....	....	....	.....	.....	124	126	127	128	129	130
68	....	....	....	....	....	....	.....	.....	126	128	130	132	133	134
69	....	....	....	....	....	....	.....	.....	129	131	133	135	136	137
70	....	....	....	....	....	....	.....	.....	.....	134	136	138	139	140
71	....	....	....	....	....	....	.....	.....	.....	138	140	142	143	144
72	....	....	....	....	....	....	.....	.....	.....	.....	145	147	148	149

WOMEN

Height	19 Yrs.	20 Yrs.	21–22 Yrs.	23–24 Yrs.	25–29 Yrs.	30–34 Yrs.	35–39 Yrs.	40–44 Yrs.	45–49 Yrs.	50–54 Yrs.	Yrs.
4 ft. 10 in.	98	102	106	110	113	116	119	123	126	129	.....
4 ft. 11 in.	103	107	109	112	115	118	121	125	128	131	.....
5 ft.	109	112	113	115	117	120	123	127	130	133	.....
5 ft. 1 in.	113	115	116	118	119	122	125	129	132	135	.....
5 ft. 2 in.	116	118	119	120	121	124	127	132	135	138	.....
5 ft. 3 in.	120	121	122	123	124	127	130	135	138	141	.....
5 ft. 4 in.	123	124	125	126	128	131	134	138	141	144	.....
5 ft. 5 in.	126	127	128	129	131	134	138	142	145	148	.....
5 ft. 6 in.	129	130	131	133	135	138	142	146	149	152	.....
5 ft. 7 in.	131	133	135	137	139	142	146	150	153	156	.....
5 ft. 8 in.	135	137	139	141	143	146	150	154	157	161	.....
5 ft. 9 in.	138	140	142	145	147	150	154	158	161	165	.....
5 ft. 10 in.	141	143	145	148	151	154	157	161	164	169	.....
5 ft. 11 in.	145	147	149	151	154	157	160	164	168	173	.....
6 ft.	150	152	154	156	158	161	163	167	171	176	.....

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these tables does not mean that the cause of the condition is determined. The underweight may be the result of tuberculosis. Irrespective of cause, the child is malnourished if its weight is ten pounds or more below what it should be for its height and age.

Weight in adult life. Insurance mortality statistics indicate that an increase in weight after thirty years of age is undesirable for length of life. The charts on pages 256 and 257 indicate the proper weight for height and age.

Eyes.—Normal vision is so important because of the many serious reflex conditions arising out of imperfect vision that every care should be used to diagnose and correct abnormalities of vision. The most simple and most generally used test for determining vision as given by Dr. Wood* is as follows:

Conditions for Test.

I. Make the test for each pupil singly and in a room apart from the schoolroom if possible.

II. For children too young to read, use the chart with pictures of familiar objects.

Arrangement of Chart.

III. Hang the Snellen test chart away from windows, in a good light, on a level with the head.

Test.

IV. Place the pupil 20 feet from the chart. Hold a card over one eye firmly against the nose without pressing on the covered eye. Have pupil name letters from the top (larger letters) downward, reading from left to right with one eye and from right to left with the other to avoid reading from memory.

Recording.

V. The lines on the chart are numbered. At a distance of 20 feet the normal eye should read the letters on the 20 foot line. Record would be $\frac{20}{20}$ (distance in feet of chart from eye). (number over line of smallest letters read).

*Wood, T. D. Health and Education. *Ninth Year Book.* Part I. National Society for the Study of Education.

If the smallest letters which can be read are on the 30 foot line, vision will be recorded as $\frac{20}{30}$ If the smallest letters which can be read are on the 40 foot line, the record would be $\frac{20}{40}$ If a pupil cannot see the largest letters numbered, for instance 100, have him approach slowly until he can read them. If 10 feet is the greatest distance at which the largest letters can be read, record would be $\frac{10}{100}$ A mistake of two letters on the 20 foot line and of one on the 30 or 40 foot line may be allowed.

Dr. Woll at the College of the City of New York uses a method that is very satisfactory, easy to do, and more accurate than the above. It detects errors not discernible with the test chart. The technique (4) of this objective method is worth learning. It is sufficient here to state that it depends upon the use of the ophthalmoscope and employs a technique that is not difficult.

The use of the test type without lenses fails to determine that abnormality of vision known as hyperopia. In this connection, Whipple* says—"many of the simple distance tests that have been applied wholesale upon school children utterly fail to diagnose it." The test recommended by the American Ophthalmological Society employs Dennett's type and two test lenses, two −.75 D. and two +.75 D, and one blank disc. This test is easily made and may with the astigmatic test be considered adequate for purposes of detection of abnormality. The test is adequately described by Whipple.*

Eye conditions need observation and attention (5). The more common ones will be presented here.

1. *Trachoma.* This is a disease of the eyelids characterized by inflammatory thickening of the conjunctiva with the presence of a granular formation and an eye discharge. The disease is very contagious.

* Whipple, G. M. *Manual of Mental and Physical Tests.* Warwick and York, Baltimore, 1910, Test 14, p. 131.

It is progressive and unless treated leads to permanent impairment of the eyelids and may destroy vision. The cure is very difficult and unless thorough and constant care is taken, it is hopeless to expect a cure.

2. *Acute epidemic conjunctivitis.* This acute infection of the eye is popularly known as "pink eye." It is more often seen in adults and occurs epidemically. It is simple to treat and has no serious complications.

3. *Simple conjunctivitis.* This is evidenced by the redness of the conjunctiva with watering and some discharge. It is caused by dirt, dust, and wind (automobile riding), and not by an infection. The increase in lachrymation is an effort to get rid of the irritation.

Ears.—Defective hearing is not as easy to detect as defective vision. Frequently a child is adjudged stupid who fails to understand lessons presented when the cause for the failure is imperfect hearing.

The causes of defective hearing may be congenital or acquired. Adenoids, and infectious diseases, such as scarlet fever, measles, smallpox, etc., are often causes. The test to be used is the voice test or the audiometer test. The former is in more general use. As described in General Orders 66 and used by the War Department, U. S. government, it is conducted as follows:

The hearing will be tested by the whispered voice at 20 feet, the examiner using his residual air to produce the whisper. The applicant should stand with his back to the examiner while an assistant closes each of the applicant's ears in succession by pressing his finger firmly on the tragus. If the whisper is inaudible to the applicant, the voice of the examiner will be raised to a forced whisper, to ordinary voice, or to loud voice as may be necessary.

Normal hearing should detect and understand the whispered voice at twenty feet.

Ear defects, other than defective hearing, are impacted wax, running ear, ruptured drum, and swellings in the canal due to furuncles (boils) or other infections.

It cannot be emphasized too often that one should be dissatisfied with the mere observing and recording of defects of the body, and that one should seek constantly to devise ways and means of treatment and cure. Medical inspection too often has been concerned only with inspection. More than that is involved the moment a defect is found.

Mouth.—The mouth in these days is viewed with suspicion whenever anything is wrong with the functioning of the body. The gateway of disease is not always the mouth but frequently the oral cavity is the ante room to a host of bodily aches and pains. In an estimation of an individual's health, the mouth comes in for careful inspection.

1. *Teeth.* Some hygienists to-day are saying that it would be better for people to have their teeth extracted and replaced by plates of artificial ones. This probably is an extreme statement. No attempt will be made here to state the diseases and disturbances arising out of tooth infections but only to indicate the points to notice in the examination. Beck* writes of the importance of chronic focal infections.

a. Hygiene of the teeth. Are they clean? Do they show that they were cared for?

b. Disease of the teeth. Note cavities. What is the condition of the gums? Is pyorrhea alveolaris present?

c. Repair of the teeth. What teeth are filled? Is there bridgework? Are there crowns? Are there missing teeth?

* Beck, Joseph C. "Chronic Focal Infection of the Nose, Throat, Mouth, and Ear." *Journal American Medical Association.* November 7, 1914.

Conditions found on examination will vary. The really bad dental conditions among school children (6) will astonish those who come uninitiated into the field. As a guide in advice and procedure, the best dental authorities agree upon the following:

(1) The teeth should be clean.

(2) All cavities should be filled.

(3) All roots and stumps should be removed.

(4) Pyorrhea should be treated.

(5) Crowns and bridge work are not to be recommended. Crowns are to be viewed with suspicion if there is any general bodily disturbance not traced definitely to other causes.

2. *Tonsils.* These small lymphatic glands at the entrance of the pharynx are frequently the cause of impairment of health. In children frequent attacks of tonsilitis endanger the child's health. Removal is advised not on the basis of size unless the size is obstructive as often occurs in young children, but on the condition of the tonsil.* It is advisable to refer all cases to an experienced throat specialist.

3. *Adenoids.* A very common disturber of growth and general health is the collection of lymphatic tissue at the back of the nose. Adenoids if giving signs should be removed. Signs of adenoids are:

a. Mouth breathing during day and night; snoring at night

b. Nasal catarrh

c. Depression of physical and mental activity due to lack of air

d. Drowsiness, sluggishness; sleeps a great deal

e. Swollen bridge of the nose (late effect)

f. Middle ear disturbance; does not always occur

* See Williams, Jesse Feiring, *Personal Hygiene Applied*, W. B. Saunders Company, Philadelphia, 1922.

g. Narrowing of jaws, arching of palate, irregularity of teeth
h. Frequent sore throat
i. Cervical adenitis
j. Nervous disorders
k. Malnutrition (late effect)
l. Defective speech

Heart and circulatory system.—A thorough examination of the heart requires a physician who has been well trained. Ready recognition of abnormal heart sounds and action is then possible. It is necessary, however, to have some tests of heart action in that large group of cases that are classed normal by physicians and yet that show a wide variability in action under exercise. The effects of athletics on the heart (7) and the need for careful supervision of athletics during athletic events indicates the value of a ready test for determining fitness for competition. Because of this need there have arisen several tests of heart efficiency and circulatory action that are worthy of presentation. They have not been studied comparatively to any extent and it is not known if all are satisfactory.

1. *The Foster test.* The simplest is the Foster test (8). It is described on page 294.

2. *The Crampton test.* Dr. C. Ward Crampton has devised what he calls the Blood Ptosis Test. It aims to measure the tone of the blood vessels of the body and hence general body tone and hence general circulatory condition and physical efficiency. It has not been sufficiently tried out and its value is still *sub judice.* It should be compared with other tests. Dr. Crampton describes (9) the technique of the test as follows:

> The sphygmomanometer is adjusted over the brachial artery and the patient is placed on a comfortable couch with a low pillow.

The heart rate is counted by quarter minutes and a gradually increasing rate is usually observed. Counting should be continued until two successive quarter minutes are the same; this is multiplied by four and recorded. The systolic pressure is then taken preferably by auscultation. The patient stands, the heart rate is counted as before until it reaches the "standing normal" when it is recorded and the blood pressure is then taken. The differences are calculated and reference is made to the scale:

PERCENTAGE SCALE

VASOMOTOR TONE

Blood Pressure

Heart rate increase	Increase						Decrease				
	+10	+8	+6	+4	+2	0	−2	−4	−6	−8	−10
0 to 4	100	95	90	85	80	75	70	65	60	55	50
5 to 8	95	90	85	80	75	70	65	60	55	50	45
9 to 12	90	85	80	75	70	65	60	55	50	45	40
13 to 16	85	80	75	70	65	60	55	50	45	40	35
17 to 20	80	75	70	65	60	55	50	45	40	35	30
21 to 24	75	70	65	60	55	50	45	40	35	30	25
25 to 28	70	65	60	55	50	45	40	35	30	25	20
29 to 32	65	60	55	50	45	40	35	30	25	20	15
33 to 36	60	55	50	45	40	35	30	25	20	15	10
37 to 40	55	50	45	40	35	30	25	20	15	10	5
41 to 44	50	45	40	35	30	25	20	15	10	5	0

Note.—In case of increase in pressure higher than +10 add 5 per cent to the +10 column for each 2 millimetres in excess of 10. For decrease in pressure lower than −10 subtract 5 per cent from the −10 column for each 2 millimetres lost.

This scale provides a convenient and intelligible method of recording and reporting cases and permits a numerical statement of the function in question. Its 100 mark indicates a perfectly efficient working of the vasomotor system under test, the zero is approximately the point where the average person is unable to maintain the erect posture.

3. *The Barringer test.* The Barringer test (10) is a test of the response of the circulatory system to a definite amount of work and is interpreted in terms of a delayed rise in blood pressure. It is a very

valuable test but its routine use is not possible because of the amount of time required to perform the test properly. Its essential technique is as follows:

> The apparatus consists of pairs of 5, 10, 15, and 20 pound dumb-bells, and a steel bar about 40 inches long weighing about 25 pounds. Definite prescribed movements are made with the dumb-bells and the foot pounds of work done is estimated. The pulse rate and blood pressure is taken every 30 seconds and the work increased until a delayed rise in the blood pressure is observed. The normal cardiac capacity varies in different people and a scale for reading the results is not available. A practical test for estimating the heart's functional capacity has been provided, however, in this technique by Barringer.

4. *The Schneider cardiovascular rating.* Schneider in an effort to devise an "easily applied reliable physical efficiency test" to measure physical efficiency and to detect fatigue studied the tests by Foster and Crampton and the standards used by Meylan. He arranged a test that considers heart rate reclining, increase on standing, standing rate, increase after exercise, return rate after exercise, and systolic blood pressure standing and reclining. The following table indicates the point rating for the different determinations.

Points for Grading Cardiovascular Changes

A		B				
Reclining pulse rate		Pulse rate increase on standing				
Rate	Points	0–10 Beats Points	11–18 Beats Points	19–26 Beats Points	27–34 Beats Points	35–42 Beats Points
50– 60	3	3	3	2	1	0
61– 70	3	3	2	1	0	−1
71– 80	2	3	2	0	−1	−2
81– 90	1	2	1	−1	−2	−3
91–100	0	1	0	−2	−3	−3
101–110	−1	0	−1	−3	−3	−3

C		D				
		Pulse rate increase immediately after exercise				
Standing pulse rate		0–10 Beats	11–20 Beats	21–30 Beats	31–40 Beats	41–50 Beats
Rate	Points	Points	Points	Points	Points	Points
60– 70	3	3	3	2	1	0
71– 80	3	3	2	1	0	0
81– 90	2	3	2	1	0	−1
91–100	1	2	1	0	−1	−2
101–110	1	1	0	−1	−2	−3
111–120	0	1	−1	−2	−3	−3
121–130	0	0	−2	−3	−3	−3
131–140	−1	0	−3	−3	−3	−3

E		F	
Return of pulse rate to standing normal after exercise		Systolic pressure standing compared with reclining	
Seconds	Points	Change in mm.	Points
0– 60	3	Rise of 8 or more	3
61– 90	2	Rise of 2–7	2
91–120	1	No rise	1
After 120: 2–10 beats above normal	0	Fall of 2–5	0
After 120: 11–30 beats above normal	−1	Fall of 6 or more	−1

From the experience at Mitchell Aviation Field, Schneider states that a score of nine or less is characteristic of physically unfit men. The procedure in making the test is fully described in the original article.*

Lungs.—The examination of the lungs is a delicate task and in the hands of the unskilled non-medical examiner it is worthless. Medical examiners are laying great stress upon the early detection of tuberculosis (11) and the importance therefore of yearly examinations is not to be gainsaid. The examination must be made by a well trained medical officer.

Feet.—Flat feet were not an uncommon cause for rejection in the Selective Service Draft for the National Army.

*Schneider, E. C. "A Cardiovascular Rating as a Measure of Physical Fatigue and Efficiency." Journal American Medical Association. May 29, 1920, p. 1507.

The early recognition of weak and flat feet and initiation of pressure and corrective measures in school is very important. Some of the more important tests to make are:

1. *Functional test.* The subject is required to rise on the feet, to jump into the air, and to land bending the knees. The test used by the medical department of the army is described in General Orders 66 as follows:

> The strength of the foot should be tested by requiring the applicant to walk on his toes (the soles of the feet being nearly vertical with the floor) and to hop on the toes of each foot. He should be able to rise on the tip toes strongly, to hop well, and to alight on the toes after springing from the ground. Pronounced cases of flat foot, attended with marked eversion of the foot and marked bulging of the inner border due to inward rotation of the astragalus, are disqualifying regardless of the presence or absence of subjective symptoms.

What is important to determine is the functional strength of the foot and not its relative flatness. A high arch may present a weak foot.

2. *Graphic test.* For the reason given above the use of wet or blackened paper to represent graphically the arch of the foot is of less value than the above test. It consists in having the subject stand on paper prepared with a carbon film.

3. *Pressure test.* A more valuable test than the graphic one above and of equal value with the functional test and to be used with it, is the pressure test as described to me by Dr. Albert Freiberg, of Cincinnati. It consists in applying pressure with the thumb over the sustentaculum tali. In early cases showing strain on the arch, tenderness will be elicited. It is an important diagnostic point.

Spine.—Deviation from the normal in the spine may be slight and as such is of no particular importance. If such deviation is accompanied by pain, weakness, discomfort, the condition needs treatment. Corrective exercises

for all spinal curvature of a postural character or resulting from disease such as infantile paralysis are indicated. Instruments for measuring the anterior and lateral curves are the pantograph (12), the Schulthess instrument (13) and the scoliosiometer (12).

The eight items discussed are important in any estimation of the health of pupils and students. Less or more than the above may be done in certain places* and be satisfactory; in most cases the above presents an average and satisfactory list for examination and with one or two exceptions offers a type of examination that the non-medical officer may not attempt.

Teachers' and Parents' Coöperation in Health Supervision

It is important to have teachers instructed to recognize defects and disturbances in children and every help that will assist them to refer cases should be used. With this valuable measure in mind, Dr. Thomas D. Wood proposes three groups of signs with indications which make comparatively easy the recognition of disturbances. These signs are also of significance for parents.

FOR PARENTS

INDICATIONS OF HEALTH DISORDERS IN CHILDREN

for which parents should keep children at home and notify the school

Proposed by
Thomas D. Wood, M. D.,
Teachers College
Columbia University, New York City.

Nausea
Vomiting

*Transactions of Fourth International Congress on School Hygiene. Vol. IV, pp. 135–692.

Chill or convulsions (fits)
Dizziness, faintness, or unusual pallor
Eruption (rash) of any kind
Fever
Running nose
Red or running eyes
Sore or inflamed throat
Acutely swollen glands in neck
Cough
Failure to eat the usual breakfast
Any distinct change from usual appearance and conduct of child

The above signs should be used also by teachers as a basis for excluding pupils from school for the day, or until signs have disappeared, or until the school doctor has authorized the return of the pupil to school.

Children may be taught (without disturbing fear or attempt to deceive) to notice the above signs in themselves or their companions and thus contribute their part toward protecting the school from contagious disease.

FOR TEACHERS

SIGNS OF HEALTH DISORDERS PHYSICAL DEFECTS IN SCHOOL CHILDREN

The following signs of disorder have been arranged in three groups for the use of teachers in detecting possible health and physical defects in children under their care.

Group I contains signs of disorder which call for immediate attention.

Group II names signs of abnormality pointing to more chronic disorders which should be remedied early.

Group III contains indications of disturbance which are important in connection with other signs of physical disorder.

GROUP I.

Signs	
Sore throat Earache Ear discharge Running nose	Disorders of nose, throat, and ear

Sore eyes of any kind Styes Congested eyes (red or bloodshot) Dizziness	Eye disorders and defects
Flushed face Chill Headache Eruptions Nausea Vomiting Running nose Congested eyes Cough	Contagious diseases
Fits Fainting	Nervous disorders
Enlarged glands in neck Puffiness of face and eyes Shortness of breath Unusual pain anywhere	Nutritional and general disturbances

GROUP II

Signs

Mouth breathing Loud breathing Nasal voice Catarrh Frequent colds Offensive breath Chronic cough Deafness Twitching of lips Headache	Disorders of nose, throat, ear, and organs of respiration
Headache Crossed eye Squinting Holding book too near face	Eye disorders and defects
Decayed teeth Discoloration of teeth Crooked teeth Offensive breath	Teeth defects

Inability to hold objects well Spasmodic movements Twitching of eye, face, or any part of body Nail biting Perverted tastes Sex disturbances	Nervous disorders
Pain in feet Toeing markedly out Flatfoot gait Swelling, puffiness of feet Excessive perspiration of feet	Defects of feet
Unequal height of shoulders Flat chest Round back and shoulders Stooping	Incorrect posture

GROUP III

Signs

Prominent upper teeth Blank expression Slow mentality Poor physical development Inattention Slow progress	Disorders of nose, throat, and ear
Peculiar postures when reading Poor reading or spelling	Eye disorders and defects
Prominent teeth Poor articulation Broken teeth Malnutrition	Teeth defects
Irritability Bad temper Undue emotion of any sort Frequent requests to go out Timidity Stammering Cruelty Moroseness Solitary habits Undue embarrassment Undue activity Misbehavior	Nervous disorders

Deficient weight Pallor Lassitude Perverted tastes (food) Slow mentality Peculiar or faulty postures Underdevelopment Excessive fat Low endurance Disinclination to play Fatigue	Nutritional and general disturbances
Pigeon-toed gait Shuffling, inelastic walk Exaggerated knee action in walking Shifting from foot to foot Standing on outer edge of feet Standing on inner side of feet, heels turned out Locking knees Leaning against wall or desk Shoes run over at either side Wearing out of soles asymmetrically Twitching of foot muscles	Defects of feet and legs and defective movements

Physical Efficiency

Fifteen years ago there was considerable interest in the colleges in anthropometric data that aimed to state facts of physical efficiency. Efforts to express vitality and strength in terms of indices were everywhere popular. The terms vital-index, height-weight-index, are not used very much to-day but in place of these statements of static ability have come certain tests emphasizing what the performer can do with his muscles and nervous system. The report* of the National Committees on Standard Physical Efficiency Tests present valuable data on the present development of the tests for physical efficiency. Three reports are available: For elementary schools, for secondary schools, and for the Y. M. C. A., Y. W. C. A.,

* These reports may be secured from the American Physical Education Association, 93 Westford Ave., Springfield, Mass.

Clubs, and Industrial Associations. It would seem worth while to set forth some of the most interesting and important of the many physical efficiency tests.

University of California physical efficiency test.—The program of physical education at the University of California and the tests in use there conform in type and quality to the principles set forth in the first chapters of this book. The organization and administration of the efficiency tests are given below, as described by Professor Kleeberger:

In the first place, on entering the university, all men are carefully examined by the medical examiners at the university infirmary, which is a very important and extensive department of the university organization, as you will readily see from the following figures.

The infirmary is under the direction of a specialist in socialized and preventive medicine, who gives his entire time to this work. It maintains a staff of four women physicians, five men physicians, two dentists, and ten nurses. About 1600 entrants are given medical and physical examination each year. About 4000 students, or 79 per cent of the entire student body in 1914–1915, were treated in the dispensary on an average of eight times each, making a total of about 31,687 personal treatments given during the year. In addition to the dispensary service, 669 students,—13.6 per cent of the student body,—were given service as house or bed patients, remaining in the hospital an average of 5.3 days each. Exactly 437 smallpox vaccinations and 123 typhoid inoculations were administered during the same year.

All men needing medical attention of any sort are referred immediately to this department,—the department of physical education administering only first aid treatments in cases of injury. In organizing the work of the department of physical education the men are divided into two groups,—these groups determined by the findings of the medical examinations. The men showing organic weakness, deformity, crippling, etc., are classed as "specials" and are barred from the physical efficiency tests. These men make up about 4 per cent of the entering classes, and are given special attention through a system of individual supervision in the performance of special assigned exercises calculated to correct their specific defects. Photographs are taken of all men entering the university. This is done in the front, side, and rear views, and advice is then given each individual for the correction of the defects in posture and development which are thus so clearly visualized for him.

The tests previously outlined are divided into three groups, to facilitate the administration of the plan. The running, jumping,

vaulting, falling, and body-lifting elements are grouped as one test,—the first test given, which is known as the "agility test"; the swimming, diving, and life-saving trials are known as the "swimming test"; and the boxing, wrestling, jiu-jitsu, and fencing elements constitute the combat, or "defense test."

If a man fails in his first test, that of agility, he is assigned to the activity which will develop ability along the line of his deficiency. Thus a freshman who is below par in running and jumping, but strong in the other elements of the agility test, is given a choice between track and gymnastic class work. If, on the other hand, the man on trial is good in running and jumping, but fails in the agility test because he is weak in the arms, clumsy in his falling, and unable to hand-vault a common obstacle, he is held in the gymnasium, where the work is planned to overcome these faults, as well as to develop in him the organic strength and muscular vigor the lack of which he himself now realizes. The men who fail in the agility test are the men who show plainly the need of fundamental development, such as is most easily accomplished, where large groups are involved, through the more formal types of vigorous gymnastic drill. This group of men averaged about 28 per cent of the entering class during the year, 1916–1917.

On the other hand, if a freshman passes the agility test, he is then questioned as to his ability along lines of combat and swimming, it being explained clearly that it will be necessary for him to pass tests in these two activities if he wishes to have free choice of sports during his sophomore year. In case he expresses a doubt of his proficiency in either of these sports, he is advised to enroll in the one most in question, that he may pass the subsequent tests, when they are given, with as high a score as possible. He is privileged, however, to elect any sport he pleases, from golf to football, during the remainder of this first half-year.

At the beginning of the second half-year, *all* men are again enrolled in the gymnasium classes for a period of three weeks of drill, during which time those who feel ready for the combat test are examined as to their ability in self-defense. If the applicant fails in the combat test, he then has a choice of activities limited to boxing, wrestling, and the other phases of combat work, or an alternative of remaining in the classes emphasizing formal gymnastics for the purposes of general development. If, on the other hand, he passes his defense test (and about 60 per cent of the freshmen do, as a man having any doubt at the beginning generally sets about seriously to prepare for the ordeal), he is then free to elect any sport he wishes until April 1, at which time he is called upon to report and either pass the swimming test or enroll for that work until he can pass it. About 70 per cent of the men pass this test at the first trial.

In this way the men are prompted to enter the various sports which ensure a broad physical efficiency, on their own volition, and with a

definite aim in view, namely, that of meeting at least the definite minimum standard of proficiency laid down and if possible, of making a creditable record. This method of attack results in a more sincere type of work, a greater breadth of development, and an active interest in systematic physical exertion on the part of the men. The sophomore or freshman who has accomplished all of his physical efficiency tests successfully passes from the "novice division" to the "athletic division," and is free to elect any sport he may desire.

Men who pass all phases of their physical efficiency test with a grade of "1," and have represented the university on at least one varsity squad, and who have a reputation as first-class sportsmen, are eligible to the "honor division." No man has attained this distinction as yet,—the above method having been in force only two years,—but several are now approaching it; and I feel sure that in the course of a year or two at the most we shall have a number of such supermen—all-round athletes in the true sense of the word.

The physical efficiency test card in use at California is given below:

Name..... ....
(Doe, John) Weight Height Number

PHYSICAL EFFICIENCY TEST CARD

Date.....	Date.....	Date.....
AGILITY *Grade*	SWIMMING *Grade*	DEFENSE *Grade*
Running (100 yds.)	Distance	
$13\frac{1}{5}$ secs. – 3 $12\frac{2}{5}$ " – 2 $11\frac{4}{5}$ " – 1	50 yds. – 3 100 " – 2 220 " – 1	Boxing, Wrestling, Fencing (Check test taken)
Jumping (Broad)	Strokes	
14 feet – 3 $15\frac{1}{2}$ " – 2 17 " – 1	1 – 3 3 – 2 5 – 1	Weight control.....
Vaulting (Fence)	Speed (25 yds.)	
Nipples – 3 Shoulder – 2 Eyes – 1	25 secs. – 3 20 " – 2 15 " – 1	Blocks and counters..... Blows or holds.....
Scaling	Dive	
No time limit 3 $7\frac{3}{5}$ to 10 secs. 1 Under $7\frac{3}{5}$ " 1	Height of 5 feet - 3 3 elective types - 2 4 prescribed " } 1 2 elective "	Initiative.....

Falling	Rescue (distance)	
3 feet obstacle 3 4 " " 2 5 " " 1	2 yds. – 3 5 " – 2 20 " – 1	Sportsmanship.....
Assignment.....	*Assignment*.....	*Assignment*.....
.....	.....	.....
.....	.....	.....

All of the students at California are not physically fit to engage in competitive sports and in the judgment of the department it is necessary that developmental gymnastics be employed for a certain number to enable them later to pass their efficiency tests. It is important to remember though that Professor Kleeberger is inclined to favor natural gymnastics in this developmental and body-building work.

Columbia University physical efficiency test.—The problem in the university is in many ways different from the problem of physical education in the elementary school. In general two types come to the university: one well developed, well set up; the other, physically weak and without stamina, endurance, or skill. There are variations from these two main classes. The physical efficiency tests serve to separate the wheat from the chaff.

At Columbia University by means of tests in use since 1904, the men are divided into three groups:

Group A—Men having an excellent record in all the tests. These men are permitted to engage in any of the college sports.

Group B—Men having a good average record register in one of the regular sections.

Group C—Men needing special work. These register in a special section.

THE GROUP A TEST

Students classified as Group A men may meet the requirements in the Department of Physical Education by participation in some sport

or sports. The choice of activity must be made in writing and filed in the Gymnasium Office.

A student must score 40 points (see test below) and, in addition, receive a grade of A or B on his physical examination (Dr. Meylan's Office) in order to be classified in Group A.

Attendance is taken by the coach or manager and recorded with the Gymnasium Office each Friday night. All absences from these—as in other classes—are reported to the Dean *weekly*.

GROUP A TEST:

One Lap,	22 sec.	equals	10 points;	$22\frac{1}{5}$— sec.	equals	8	points
High Jump,	4 ft. 6 in.	"	10 "	4 ft. 2 in	"	8	"
Bar Vault,	5 ft. 6 in.	"	10 "	5 ft.	"	8	"
Rope Climb,	20 ft. & cross	"	10 "	20 ft. & return	"	8	"
Swimming		"	10 "	Swimming	"	8	"
			50 points			40	points

Tests are given at the beginning of each term. Any student making 35 points, but less than 40 at the first trial may take it again at the end of seven weeks. This test is given at 12 m. daily on the first ten days of each term.

Final Examinations:

Physical Education A1:	Points.
Running High Jump	12
Bar Vault	12
Rope Climb	6
One Lap Run	10
Three Lap Run (Indoors)	10
Daily Work: Carriage, Effort, Proficiency	50
	100

Physical Education A2:	Points.
High Horizontal Bar—three mounts	9
Running Broad Jump	9
One-Half Mile Run	12
Swimming	20
Daily Work: Carriage, Effort, Proficiency	50
	100

Physical Education B1:	Points.
Chinning (High Bar)	12
One Standing Broad Jump	12
Six Lap Run (Indoors)	16
Swimming	10
Daily Work	50
	100

Physical Education B2:	Points.
Three Standing Broad Jumps	12
Mile Run	12
Handball	16
Swimming	10
Daily Work	50
	100

Swimming.—The following tests must be passed by every student. Those who are unable to pass the tests at the beginning of the year must make an appointment for two lessons a week and report regularly.

Swimming Tests:

Freshmen:

1. Swim one length of pool, breast or side stroke.
2. Dive or jump in at deep end, turn around and swim to starting point.
3. One length of pool on back.

(Must be passed before May 10th.)

Sophomores:

1. Four lengths of pool, using any stroke.
2. Two lengths on back.
3. Treading water three minutes.
4. Dive or jump off tower, or pick up hockey puck.

ELECTIVE

Life-Saving; Advanced Swimming (all strokes).

Physical efficiency tests are used at Barnard College for women. The test consists in "tactics, free standing exercises—exercises on ropes, buck, horse, or flying rings. Such exercises are chosen as will demonstrate the qualilities desired: poise, muscular control, coördination, quick response to command, accuracy, endurance, and strength of certain large groups of muscles."* This test measures ability in formal gymnastics; whether the qualities determined are in any sense general qualities needs to be demonstrated.

* Wayman, Agnes R. "Physical Efficiency Tests as a Means of Determining the Type of Physical Work a Student should do."

A paper presented at the annual meeting of the Eastern Society of the Association of the College Directors of Physical Education for Women, held at Vassar College, April 22-23, 1921. I am indebted to Professor Wayman for the privilege of seeing this unpublished manuscript.

The Canadian standard efficiency tests.—The National Council of the Young Men's Christian Association of Canada through its test committee has evolved an efficiency test (15) that consists of four standards for boys about 13 to 20 years of age. It considers an intellectual standard, a physical standard, a religious standard, and a service standard and assigns credits to work done in each group as follows:

Intellectual Standard "Jesus increased in wisdom"		Physical Standard "and stature"	
1. School or college	400	1. Health education	200
2. Sex education	120	2. Camp craft	150
3. Public speaking	120	3. Team games	170
4. Home reading	70	4. Group games	50
5. Educational lectures	50	5. Swimming	130
6. Educational trips	70	6. Running	100
7. Craftsmanship	100	7. Jumping	100
8. Collections, Grade 1	70	8. Throwing	100
Observations, Grade 2			
Woodcraft, Grades 3 to 8			
Total Credits Obtainable	1000	Total Credits Obtainable	1000

Religious Standard "and in favor with God"		Service Standard "and man."	
1. Church and Sunday school	400	1. Member boys' organization	100
2. Mid-week bible discussion	200	2. Ability to entertain	50
3. Morning watch	150	3. Training for service	200
4. History of religion	50	4. Personal service	140
5. Music	50	5. Good citizenship	130
6. Poetry	50	6. Three C's campaign	100
7. Art	50	7. Choosing life work	140
8. Nature	50	8. Heroes of service, Grades 1 to 4	140
		Nation study, Grades 5 to 8	
Total Credits Obtainable	1000	Total Credits Obtainable	1000

Events	Record	Points
Chin		
Stand Broad Jump		
Overhead Shot		
100-Yard Dash		
Sit Up		
Run Broad Jump		
Run High Jump		
Stand Hop Step Jump		
Run Hop Step Jump		
Shot Put		
Dip		
220-Yard Dash		
Total Points		

Points	Chin	Stand Broad Jump	Overhead Shot	100-Yard Dash	Sit Up	Run Broad Jump	Run High Jump	Stand Hop Step Jump	Run Hop Step Jump	Shot Put	Dip	Points
1000	28	10	50	10:0	100	23	6	30	50	50	60	1000
990	26	9-9	48	10:1	90	21	5-8	28	45	48	55	990
980	24	9-6	46	10:2	80	19	5-4	27	42	46	50	980
970	22	9-3	44	10:3	70	17	5	26	40	44	45	970
960	20	9	42	10:4	60	16-6	4-10	25	38	42	40	960
950	18	8-9	40	11.0	50	16	4-8	24	36	40	35	950
940	16	8-6	38	11:1	40	15-6	4-6	23	34	38	32	940
930	14	8-3	36	11:2	35	15	4-4	22	32	36	29	930
920	13	8	34	11:3	30	14-6	4-2	21-6	31	34	26	920
910	12	7-10	32	11:4	28	14	4-1	21	30	32	23	910
860	11	7-8	30	12:0	26	13-6	4	20-6	29	30	20	860
800	10	7-6	29	12:1	24	13	3-11	20	28	29	18	800
730	9	7-4	28	12:2	22	12-6	3-10	19-6	27	28	16	730
650	8	7-2	27	12:3	20	12	3-9	19	26	27	14	650
560	7	7	26	12:4	18	11-6	3-8	18-6	25	26	12	560
460	6	6-9	25	13:0	16	11	3-7	18	24	25	10	460
370	5	6-6	24	13:1	14	10-8	3-6	17-6	23	24	9	370
290	4	6-3	23	13:2	12	10-4	3-5	17	22	23	8	290
220	3	6	22	13:3	10	10	3-4	16-6	21	22	7	220
160	2	5-9	21	13:4	8	9-8	3-3	16	20	21	6	160
110	1	5-6	20	14:0	6	9-4	3-2	15-6	19	20	5	110
70		5-3	19	14:1	5	9	3-1	15	18	19	4	70
40		5	18	14:2	4	8-8	3	14-6	17	18	3	40
20		4-9	17	14:3	3	8-4	2-11	14	16	17	2	20
10		4-6	16	14:4	2	8	2-10	13	15	16	1	10

In addition to the above events, entrants must obtain a total of 50, 40, and 30 points in stunts for the gold, silver, and bronze medals, respectively. The stunts and scores follow on the next page.

INDIVIDUAL STUNTS

Fron Somersault.....1	Palm Spring.....1	Distance Dive.....2	Crane Dive.....3	Under Arm.....5
Ankle Somersault.....1	Stiff.....1	Forward Fall.....2	Cart Wheel.....4	One Hand Dip.....5
Back Somersault.....1	Two Hand Dip.....1	Skin Cat.....2	Hand Spring.....4	Body Reach.....5
Full Squat.....1	Frog Dance.....2	Jump Foot.....2	One Hand Balance....4	Gorilla Swing.....5
Heel Knock.....1	Bear Dance.....2	Chair Stand.....3	Toe Jump.....4	Air Flip.....5
The Top.....1	Human Rocker.....2	Under Stick.....3	Finger Jump.....4	Cut Off Rings.....5
Tip Up.....1	Single Squat.....2	Through Stick.....3	Knee Drop.....4	Crab Walk.....5
Dog Run.....1	Knee Dip.....2	Jump Stick.....3	Toe Hold Jump.....4	Bull Neck.....5
Neck Spring.....1	Jumping Jack.....2	Head Stand.....3	Back Pick Up.....5	Snap Over.....5
Wicket Walk.....1	Stump Walk.....2	Cork Screw.....3	Snap Up.....5	Back Hand Spring...5
Stiff Leg Bend.....1	Human Ball.....2	Backward Bend.....3	Hand Stand Dip.....5	Forward Pick Up.....5
Hitch Kick.....1	High Dive.....2	Fish Hawk Dive.....3	Hand Walk.....5	One Hand Spring.....5

COMBINATION STUNTS

Wheel Barrow.....1	Back Straddle.....2	Front Toss.....3	Diving Hand Spring...4	Hand Flip.....5
Twister.....1	Snake.....2	Bobbin Ahead.....3	Straddle Vault.....4	Triple Roll.....5
Back Spring.....1	Human Bridge.....2	Bobbin Back.....3	Triple Dive.....4	Arm Stand.....5
Sack of Wheat.....1	Wind Mill.....3	Pyramids.....3	Human Teeter 4	Neck Straddle Flip....5
Elephant Walk.....2	Arm Roll.....3	Back Eskimo Roll.....3	Rocking Horse.....4	Double Cart Wheel....5
Camel Walk.....2	Knee Spring.....3	Merry Go Round.....3	Saw Buck.....4	Knee Stand.....5
Flopper.....2	Shoulder Stand.....3	Stomach Flip.....4	Hand Jump.....4	Giant Roll.....5
Front Straddle.....2	Centipede.....3	Back Foot Flip.....4	Human Arch.....5	Ladder Somersault....5
Back Toss.....2	Eskimo Roll.....3	Neck Flop.....4	Flying Somersault...5	Triple Eskimo Roll....5

CONTESTS

Box Hats	Badger Pull	Chicken Fight	Stick Wrestle	Boxing
Hand Wrestle	Bend Fingers	Cock Fight	Flat Hand	Catch-As-Catch-Can
Indian Wrestle	Pull Fingers	Pull Stick	Horse Fight	Square Hold
Elbow Wrestle	Rooster Fight	Twist Stick	Tug-of-War	Side Hold

SPORTS AND ATHLETIC EVENTS

Baseball	Potato Race	Standing High Jump	Front Shot Throw	Set Pegs
Soccer	3-Legged Race	Three Jumps	Under Shot	Putting Up Weight
Newcomb	Backward Dash	Backward Jump	Discus Throw	Shoulder Shot
Foot Ball	Relay	Three Hops	High Kick	Hold Out Weight
Basketball	Sack Race	Ball Throw (Dist.)	Double Foot Kick	Grip the Stone
Hockey	Soccer Dribble	Ball Throw (Accy.)	Back High Kick	Skating
Tennis	Pole Vault	Shot Pitch	One Foot Kick	Leap Frog

The program of instruction provides for definite talks, meetings, and activities throughout the year and opportunity under leadership for the boy to earn credits in each standard. Awards are a bronze shield for a group with 70 per cent of the total credits available, a diploma for every boy who tries the tests, and a medal with four bronze bars. The bronze bars represent each standard and are awarded for 70 per cent efficiency or seven hundred credits of the possible thousand in each standard. The medal is awarded with the first bar.

Standard Decathlon test*—Detroit public schools.—The Department of Physical Education in the Detroit Schools has utilized the desires of boys to do stunts and has arranged a test that leads to a gold, silver, or bronze medal. The events used and the scores assigned are given on pages 280, 281.

Decathlon rules state the conditions of the test.

In medal competition each contestant may try eleven events and select the ten best but must include the first three.

Entrants must reach an average of 650 for the chin, stand broad jump, and overhead shot, and not fall below a minimum of 220 points in any of the ten selected events.

The points necessary for a gold, silver, or bronze medal shall be 8600, 7300, and 6500, respectively; in addition a total of 50, 40, and 30 points must be obtained in stunts for the gold, silver, and bronze medals, respectively.

Outdoor athletic test for boys.—This test, specially designed for rural schools, is described by Dr. Brown.** It is based on the following plan:

1. A country school association is organized
2. Every school in the county is included
3. Every boy participates
4. Boys classified by weight
5. Definite events by each weight class

* See also the standard decathlon events for boys and girls as given by the Department of Physical Education, California State Board of Education.

** Brown, John R. *Outdoor Athletic Tests for Boys.* Association Press, N. Y., 124 East 28th St.

6. Every boy in all events in his class
7. Each boy tested and results recorded
8. Percentage basis of scoring points

Honor awards are made by designation of the boy as school champion, or weight class champion of the county, etc. The awards are inexpensive buttons, certificates, etc., and not of intrinsic worth.

The events and basis of scoring are as follows:

EVENTS AND BASIS OF SCORING

Weight Classes	0 Points	Honor Standard	100 Points
60–80-Lb. Class			
50-yard Dash	10 sec.	8 sec.	6 sec.
Standing Broad Jump	3 ft. 5 in.	5 ft. 6 in.	7 ft. 7 in.
Running Broad Jump	5 ft. 10 in.	10 ft.	14 ft. 2 in.
Baseball Throw	70 ft.	120 ft.	170 ft.
81–95-Lb. Class			
75-Yard Dash	13 sec.	11 sec.	9 sec.
Standing Broad Jump	3 ft. 11 in.	6 ft.	8 ft. 1 in.
Running Broad Jump	6 ft. 10 in.	11 ft.	15 ft. 2 in.
Baseball Throw	100 ft.	150 ft.	200 ft.
96–110-Lb. Class			
100-Yard Dash	16 sec.	14 sec.	12 sec.
Standing Broad Jump	4 ft. 5 in.	6 ft. 6 in.	8 ft. 7 in.
Running Broad Jump	7 ft. 10 in.	12 ft.	16 ft. 2 in.
Running High Jump	2 ft. 8½ in.	3 ft. 9 in.	4 ft. 9½ in.
Baseball Throw	130 ft.	180 ft.	230 ft.
111–125-Lb. Class			
100-Yard Dash	15 sec.	13 sec.	11 sec.
Standing Broad Jump	4 ft. 11 in.	7 ft.	9 ft. 1 in.
Running Broad Jump	8 ft. 10 in.	13 ft.	17 ft. 2 in.
Running High Jump	2 ft. 11½ in.	4 ft.	5 ft. ½ in.
Baseball Throw	145 ft.	195 ft.	245 ft.
Putting 8-lb. Shot	15 ft. 6 in.	28 ft.	40 ft. 6 in.
Unlimited Class			
100-Yard Dash	14 sec.	12 sec.	10 sec.
Standing Broad Jump	5 ft. 5 in.	7 ft. 6 in.	9 ft. 7 in.
Running Broad Jump	9 ft. 10 in.	14 ft.	18 ft. 2 in.
Running High Jump	3 ft. 3½ in.	4 ft. 4 in.	5 ft. 4½ in.
Baseball Throw	160 ft.	210 ft.	260 ft.
Putting 8-lb. Shot	22 ft. 6 in.	35 ft.	47 ft. 6 in.

Points shall be scored on the following basis:

All Dashes, for every 1-5 second better than the minimum.....5 points
Standing Broad Jump, for every half inch better than the minimum.....1 point
Running Broad Jump, for every inch better than the minimum. 1 point
Running High Jump, for every quarter-inch better than the minimum.....1 point
Baseball Throw, for every foot better than the minimum..... 1 point
Putting 8-lb. Shot, for every 3 inches better than the minimum.. 1 point

Tables indicating the method of scoring are available in the publication describing the test.

The athletic badge test for boys and girls.

1. The Playground and Recreation Association of America* advocates two badge tests, one for boys and one for girls.

The test for boys is as follows:

First test.
Pull-up (chinning).....4 times
Standing broad jump.....5 ft. 9 in.
60-yard dash.....8 3-5 sec.

Second test.
Pull-up (chinning).....6 times
Standing broad jump.....6 ft. 6 in.
60-yard dash.....8 sec.
or 100-yard dash.....14 sec.

Third test.
Pull-up (chinning).....9 times
Running high jump.....4 ft. 4 in.
220-yard run.....28 sec.

It is planned that boys of 12 years should qualify for the first test, boys of 13 years for the second, and high school boys for the third. Any boy may enter any test, however, at any time.

The girls' test is as follows:

First test.
All up Indian club race.....30 sec.
or potato race.....42 sec.
Basketball goal throwing..... 2 goals, 6 trials
Balancing.....24 ft., 2 trials

* Playground and Recreation Association of America, 1 Madison Ave., New York City. Test for boys, Bulletin 105; for girls, Bulletin 121.

Second test.

All up Indian club race.....28 sec.
or potato race.....39 sec.
Basketball goal throwing..... 3 goals, 6 trials
Balancing (bean bag, or book on head).....24 ft., 2 trials

Third test.

Running and catching.....20 sec.
Throwing for distance, basketball.....42 ft.
or volley ball.....44 ft.
Volley ball serving..... 3 in 5 trials

The test for boys would seem more satisfactory than the one for girls. The girls' test lacks the element of real testing that is present in the boys' events. The Public Athletic League of Baltimore felt a need for revising these tests and offer their own badge test. The one for the girls is much superior to the one offered by the Playground and Recreation Association.

2. The Public Athletic League of Baltimore has adopted the following standards which every boy ought to be able to attain:

First test for bronze badge:

Pull-up (chinning).....4 times
Standing broad jump.....5 ft. 9 in.
60 yards dash.....9 sec.

Second test (for those who won bronze badge)—for silver badge:

Pull-up (chinning).....6 times
Standing broad jump.....6 ft. 6 in.
100 yards dash.....13 2-5 sec

No age nor weight limit is fixed, any boy may enter any test at any time the teacher is willing to act as judge.

These tests are simple, consist of events which are interesting, and are generally acceptable. The test requires only simple apparatus and a comparatively small space. They can be conducted in a short period of time even with a considerable number of boys, and the measure of each boy's performance can be accurately determined.

CONTESTS

The following general rules shall govern the final competition: No boy is permitted to receive more than one badge for any grade in one year.

It is necessary to qualify in all three events in any one class in order to win a badge.

There shall be but one trial in chinning, one in the dashes, and three in the jumps.

1. Pull-up (Chinning)

A portable chinning bar in a doorway, a horizontal bar in the gymnasium or on the rungs of a ladder set at an angle against a building may serve the purpose.

Each contestant begins with his hands on the bar. The contestant shall extend himself to his full length before and after each pull-up, and shall also pull-up with a kick, snap, jerk, or swing, to such height as to bring his "chin" higher than the bar. Lowering himself again until his arms are straight, he repeats the "Pull-up."

2. Standing Broad Jump

Whenever possible it is best to prepare a jumping pit by digging up a piece of ground about 4 feet by 25 feet and have a wooden joist 4 inches deep by 8 inches wide imbedded in the ground at one end of the pit, flush with the surface, to serve as a "take off." Each competitor is allowed three jumps, his best jump being taken as his record.

The feet of the competitor may be placed in any position, but shall leave the ground only once in making an attempt to jump. When the feet are lifted from the ground twice, or two springs are made in making the attempt, it shall count as a jump without result. A competitor may rock back and forward, lifting heels and toes alternately from the ground, but may not lift either foot clear of the ground, nor slide either foot along the ground in any direction.

The outer edge of this joist shall be called the scratch line and the measurement of each jump shall be made at right angles to the nearest break in the ground made by any part of the person of the competitor.

3. 60 or 100 Yard Dash

A stop-watch is necessary for timing the boys in this event. Under the direction of a starter each individual competitor takes his position on the starting mark. The starter gives the signal by saying: "On the mark," "Get set," "Go." At the word

"Go" the timekeeper starts his watch. As the runner crosses the finish line (60 or 100 yards from the starting line), the timekeeper stops his watch. The time indicated on the stop watch is the runner's time.

A false start is one where any part of the person of a competitor touches the ground in front of his mark before the starter purposely gives his signal. The third false start shall disqualify the offender. The competitor shall keep his hands behind the mark assigned to him.

The Public Athletic League of Baltimore has adopted the following standards which girls ought to be able to attain:

First test for bronze badge:

Balancing.....once in 2 trials
Leg raising.....10 times
Far-throw basketball.....25 ft.

Any girl may try any test at any time the teacher is willing to act as judge. Any age or weight is eligible. The same rules govern contests as in boys' badge tests.

1. Balancing

A beam 2 by 4 inches, 12 feet long, is set so the 2-inch side is to be walked upon. It need not consequently be over 4 inches high. Spalding sells a balance beam suitable for indoors for $5.00. One can be made for outdoors for $1.00.

A girl should start at center of beam and walk forward to end; without turning, walk backward to center; turn, walk forward to other end; turn, walk forward to starting point.

2. Leg Raising

Use chinning bar when boys are not using it.

Each contestant begins with hands on bar. It is best to grasp bar with one or both hands facing one. She shall raise both legs, knees straight, to a right angle (without any more swinging than can be helped), then lower to original hanging position. Repeat continuously ten times.

3. Far-throw Basketball

The ball shall be from 15 to 18 ounces in weight. It is thrown from a stand with feet apart with the toes at the line. The throw is from hands over the head. Swinging the arms with bending of the trunk is an advantage. The toes or heels may be raised, but a jump is not permitted. Touching the ground in front of the

line or stepping over the line before the throw is measured constitutes a foul. (A foul counts as one trial.) Three trials are given each contestant, of which the best one counts.

The ball must land within a lane 10 feet wide and must strike the ground at least 25 feet from the throwing line. Whole feet only are counted.

Physical efficiency tests for grade schools.—There have been several reports from the public school field (16), directed at establishing tests for physical efficiency of children. Good standards have been worked out by Stecher* and the results of Riley's *Rational Athletics* are interesting in this connection. Much remains to be done in this field to secure readings that will establish standard performance in many different events.

The Sheffield swimming and life-saving tests. The objects of these tests are, first, to stimulate a greater interest in swimming, diving, and life-saving; second, to emphasize the necessary progression in learning each of these activities; third, to standardize swimming, diving, and life-saving.

Leading educators and directors of physical education realize the growing demands for instruction in swimming and life-saving in our educational institutions and also the necessity of requiring a swimming and life-saving test as one of the graduation requirements.

The following tests are arranged to meet the demands of schools, clubs, and playgrounds. However, the application of the tests depends upon the discretion of the instructor and the ability of the swimmer.

Chart No. 1 serves as a detailed record of the work executed in each section. The individual is graded from 1 to 10 points over each test, and then the final points awarded are recorded on Chart No. 2.

Important references on swimming and life-saving are given at the end of this chapter (18).

* Stecher, W. A. *Educational Gymnastics.* J. J. McVey Company, Philadelphia, Pa.

CHART No. 1

Swimming Record Sheet (Grade Indicated 1 to 10)

BEGINNERS NAMES	Breath Control	Breathing	Face Submerged Floating	Attaining Standing Position	Face Submerged Push Off	Push Off Crawl Kick	True Floating	Standing From Floating	Back Push Off	Side Push Off	Changing Body Positions	Advanced Floating	Elementary Back Stroke	Sheffield Sculling Stroke	Preliminary Crawl	Deep Water Test	Under-Arm Side Stroke	Single Over-Arm Side Stroke	Rudiments of Diving
1. Allen, Helen	89	678910	6789 5	8910	910	910	8910	10	10	89	910	678	910	8910	89	10	89	9	10
2. Baker, Agnes	910	910	8910	10	10	910	789	910	910	10	789	89	8910	910	78	10	789	89	910
3. Hill, Marian	78910	8910	10	89	910	89	8910	9	10	910	678 5	789	910	8910	678	10	678	89	10
4. Stanley, Mary	10	910	10	89	910	910	910	89	10	789	910	910	10	910	67 45	10	678 345	789	10

INTERMEDIATE NAMES	Beginners' First Lessons	Deep Water Test	Elementary Back Stroke	Sheffield Sculling Stroke	Under-Arm Side Stroke	Single Over-Arm Side Stroke	Trudgeon	Trudgeon Crawl	Crawl	Plain Diving	Racing Dive	Life-Saving: Approach	Life-Saving: Front Neck Break	Life-Saving: Body Break	Life-Saving: Rear Neck Break	Life-Saving Carries: Tired Swimmers' Carry	Life-Saving Carries: Head Carry	Life-Saving Carries: Side Carry	Life-Saving Carries: Carry Out of Water	Life-Saving Carries: Resuscitation
1. Barclay, Margaret	10	10	910	10	910	10	678	78	7	9	9	7	7	67	7	8	678	7	8	78
2. David, Ruth	10	10	10	10	8910	10	78	8	67	89	910	8	8	8	8	8	78	8	7	8
3. Ruger, Lillian	10	10	10	10	10	8910	678 5	78	6	910	89	67	67	78	78	78	8	8	7	7
4. Turner, Vivian	10	10	8910	10	910	910	678 45	7	6 5	910	10	8	7	7	67	8	8	8	678	8

ADVANCED NAMES	Elementary Back Stroke	Sheffield Sculling Stroke	Under-Arm Side Stroke	Single Over-Arm Side Stroke	Trudgeon	Trudgeon Crawl	Crawl	Racing Back Stroke	Plain Diving	Racing Dive	Springboard Diving	Life-Saving: Approach	Life-Saving: Front Neck Break	Life-Saving: Body Break	Life-Saving: Rear Neck Break	Life-Saving Carries: Tired Swimmers' Carry	Life-Saving Carries: Head Carry	Life-Saving Carries: Side Carry	Life-Saving Carries: Carry Out of Water	Life-Saving Carries: Resuscitation
1. Everett, Ann	10	10	910	10	78	8	678	67	910	9	78	10	910	10	910	10	10	10	89	910
2. Frederick, Dorothy	10	10	10	10	9	9	78	789	8910	10	89	10	10	89	10	10	910	9	9	8910
3. Peterson, Irene	10	10	8910	10	910	910	89	910	910	10	9	10	89	910	89	9	10	910	910	8910
4. Rogers, Helen	10	10	10	10	6789	9	67	789	....	10	89	10	910	10	9	10	89	10	10	10

Chart No. 2 is of value as a means of scoring the individual's record for the class or school awards. The application of the swimming and life-saving tests does not require that the instructor follow the order given. Any part of the test may be passed at any time and the individual awarded accordingly. However, it is urged that the maximum of one hundred points be the final goal.

As a means of stimulating greater interest and encouraging each boy and girl to become a swimmer and life-saver, awards should be given. The nature of the honor will depend upon the system of awards used in each particular school, club, or playground. It is suggested that the awards be graded according to the beginners, intermediates, advanced, and life-saving tests. Those passing all of the tests should be given the highest award.

CHART NO. 2

THE BEGINNER'S SWIMMING TEST	Maximum Points	Points Awarded
1 Correct rhythmic breathing, turning, and submerging face 20 times	1	
2 Face submerge floating; hold second position five seconds, and regain standing position	2	
3 Face submerge push-off, 15 ft.; regain standing position	2	
4 True floating; hold position 5 sec.; regain standing position	2	
5 Side-push-off; regain standing position	2	
6 Back-push-off, 10 ft.; regain standing position	2	
7 Change body positions, back, side, and face	3	
8 Advance floating positions, arms vertical, on neck at side	3	
9 Swim a correct elementary back stroke or preliminary crawl 20 yd., if possible in deep water	4	
10 Swim the correct Sheffield sculling stroke or the side stroke 20 yd., if possible in deep water	4	
Total	25	

The swimming tests are helpful not only for testing and grading but also for classification purposes. A teacher of swimming in camp, school, or college can readily place swimmers in appropriate class groups by using these tests.

	The Intermediate Swimming Test	Maximum Points	Points Awarded
1	Swim a correct side stroke, 25 yd.	5	
2	Swim a correct single over-arm side stroke, 25 yd.	5	
3	Swim the trudgeon with a correct coördination, 25 yd.	5	
4	Execute part one, rudiments of diving.	4	
5	Execute part two, elementary diving.	6	
	Total.	25	

Definite progression in strokes and proficiency stimulates swimmers to their best work. The success in teaching swimming that Miss Nita C. Sheffield has had at Teachers College and the University of California is due in large measure to this organization.

	The Advanced Swimming Test	Maximum Points	Points Awarded
1	Swim a correct trudgeon, 50 yd.	4	
2	Swim a correct trudgeon crawl, 50 yd.	3	
3	Swim a correct crawl, 50 yd.	5	
4	Swim a correct alternate racing back or breast stroke, 50 yd.	3	
5	Execute a correct racing turn.	2	
6	Execute a plunge for distance, 35 ft.	1	
7	Execute part three, advanced diving—running swan dive.	4	
8	Execute part three, advanced diving—back dive.	3	
	Total.	25	

The advanced swimming test represents a high degree of proficiency in swimming. For most persons several years of patient and earnest work will be necessary to pass this test.

	The Life-Saving Test	Maximum Points	Points Awarded
1	Execute motionless floating for at least one minute	1	
	(If one is unable to execute horizontal floating—that is, if the body is heavier than water displacement—use a sculling arm motion or crawl kick.)		
2	Tread water for at least one minute	1	
	(If desired, one may also use a sculling arm motion.)		
3	Dive or jump from a five or ten-foot platform, swim 25 yd. Side stroke, upper arm held in carry position	1	
4	Execute shallow dive and swim 25 yd. on the back, arms held in carry position	1	
5	Jump in water dressed, undress, and continue swimming 50 yd	4	
	(Wearing apparel should consist of shoes, waist or coat, skirt or trousers.)		
6	Surface dive, locating and recovering object	4	
	(1) Swim 25 yd., execute surface dive in deep water and bring up a six-pound object, continue swimming with object on hip 10 yd.		
	(2) Execute a shallow dive and swim under water from 10 to 30 ft.		
7	Execute the following breaks while in deep water	5	
	(1) Wrist grasp		
	(2) Front neck grasp		
	(3) Body grasp.		
	(4) Rear neck grasp		
8	Execute the following carry methods while in deep water		
	(1) Head carry, 10 yd.		
	(2) Under arm carry, 10 yd.		
	(3) Side chest carry, 10 yd.		
	(4) Side head carry, 10 yd.		
	(5) Cramp carry, 10 yd. executed with trudgeon, crawl, or breast stroke		
9	Place victim's body over edge of pool or bank preparatory to resuscitation	1	
10	Execute Schafer method of resuscitation	2	
	Total	25	

Sargent's physical test. Dr. Sargent has recently* proposed a test which seeks to measure the strength, speed, energy, and skill of the neuro-muscular mechanism as applied to the overcoming of the force of gravity. An index is derived from consideration of the vertical height jumped, and the height and weight of the jumper. The test is easy to conduct and although it has not been tested extensively and results are not known, it promises to be a very valuable measure of physical efficiency. It should be studied in connection with other standard tests.**

A Scale for Measuring Physical Education

At the beginning of this chapter it was stated that there was no scale in physical education similar in type and quality to the scales available for use in measuring accomplishments in other phases of the school. Efforts have been made in this direction, however, and Professor Rapeer suggests a scale (17) which has many splendid features. It may be exactly what is desired. At present it has not been tried sufficiently to estimate its real worth. It is concrete, easy to use, and appears very promising. The scale as reported in the 16th Yearbook of the National Society for the Study of Education is as follows:

Scale for measuring physical education

(Based on a 100 points)

I. Health scale (Rapeer's) ..... total points 25
Count off four points for each serious ailment or defect reported during the school year. Add the four points when remedied or corrected. For uncleanliness reported, count off one and do not add one when corrected. Subtraction should be in proportion to gravity and after-consequence

* Sargent, D. A. "The Physical Test of a Man." *School and Society*, p. 128, January 29, 1921.
Ibid. *American Physical Education Review*, May, 1921.
** Finkelstein, W., and Williams, J. F. Correlation of Efficiency Tests, *Journal American Medical Association*, May 13, 1922, p. 1454.

of ailments but it is not attempted here. (Cf. footnote* for standard terminology and classification of school ailments.)

(Good posture** should be an item in the health scale. This seems very necessary.—J. F. W.)

II. Physiological efficiency scale (Foster's) . . . . . total points 15

Follow directions given by Dr. W. L. Foster in the American Physical Education Review for December, 1914. Pulse rate (standing) (1) before, (2) immediately after, and (3) 45 seconds after a definite amount of work has been done (running in place for exactly 15 seconds by stop-watch, at rate of 180 steps per minute).

Method of Making Test

1. Take pulse rate standing for thirty seconds or longer, if there seems to be much nervousness. Then record the rate per minute (A).

2. Have the applicant run in place for exactly 15 seconds by stop watch, at the rate of 180 steps per minute. Then have applicant stop and stand at ease. Take pulse rate immediately for 5 seconds (or for 15 seconds until observer becomes proficient in taking pulse rate and using stop watch). Record the rate per minute (B).

3. After applicant has stood at ease for 45 seconds take the pulse rate per minute again. Record the rate per minute (C).

4. Add together the values of the rates in 1, 2, and 3, as given below, observing minus signs. The total represents the final mark.

Pulse rate before test	Points	Difference in pulse rate before and immediately after test (B-A)		Difference in pulse rate before test and after 45″ rest—standing (C-A)	
100 or less	0	0 to 20	15 (maximum)	5	−1
101 to 105	−1	21 to 30	13	6 to 10	−2
106 to 110	−2	31 to 40	11	11 to 15	−3
111 to 115	−3	41 to 50	9	16 to 20	−4
116 to 120	−4	51 to 60	7	21 to 25	−5
121 to 125	−5	61 to 70	5		
126 to 130	−6				
131 to 135	−7				

* See the writer's *School Health Administration*, page 351, and *Educational Hygiene*, pages 225 and 211, also *The Administration of School Medical Inspection*, page 60 and the *Proceedings of the National Education Association* for 1913, page 657. Standardization of the examinations has been suggested in these volumes and Dr. B. T. Baldwin, of Swarthmore, Pa., has also made certain standardizations. The Dunfermline, Scotland, index and standardization of nutrition is used by the New York Association for Improving the Condition of the Poor and seems the best obtainable. See F. A. Manny, *School and Society*, Jan. 22, 1916.

** Goldwaite, Joseph, "The Relation of Posture to Human Efficiency," *Boston Medical and Surgical Journal*, Dec. 9, 1909.

Example: A pupil has a pulse rate of 95 at the beginning (A), then one of 130 after running the United States double quick time (180 steps per minute) for 15 seconds (B), and finally a rate of 110 per minute after standing at rest for 45 seconds. His A rate is less than 100, so he would get, according to the left-hand table, 0 points. The difference between B and A is (130–95) 35, which according to the middle table would give him 11 points out of a possible 15. The difference between C and A is (110–95) 15, which according to the right-hand table gives him −3 points.

Add together the three values (0, 11, and −3) and we have a final score for physiological efficiency of 8 out of a possible 15.

III. Physical development scale (Baldwin's) . . . . . total score 20.

Use Professor Baldwin's scales for boys and girls given in the *Fifteenth Year Book of the National Society for the Study of Education*. Part I, Public School Publishing Company, Bloomington, Illinois. A card for each child is obtainable from the inventor, Professor B. T. Baldwin, Swarthmore, Pa.

AGE STANDARDS FOR BALDWIN'S TWO COEFFICIENTS FOR BOYS AND GIRLS

Age	5^2	6	6^2	7	7^2	8	8^2	9	9^2	10	10^2	11
B W-H	.95	.95	.96	.98	1.07	1.09	1.12	1.17	1.19	1.23	1.30	1.33
B V.H.	1.16	1.44	1.50	1.61	1.71	1.73	1.85	1.86	2.03	2.05	2.25	2.21
G W-H	.93	.92	.95	1.02	1.04	1.11	1.13	1.13	1.18	1.22	1.33	1.36
G V-H	.93	1.33	1.36	1.51	1.61	1.65	1.66	1.71	1.76	1.89	1.98	2.07

Age	11^2	12	12^2	13	13^2	14	14^2	15	15^2	16	16^2	17	17^2
B W-H	1.33	1.42	1.46	1.52	1.51	1.55	1.59	1.63	1.78	1.79	1.88	1.90	1.88
B V.H.	2.22	2.35	2.52	2.59	2.57	2.66	2.79	3.00	3.23	3.21	3.30	3.50	3.53
G W-H	1.49	1.51	1.53	1.62	1.69	1.73	1.76	1.84	1.83	1.84	1.85	1.86	1.87
G V-H	2.09	2.22	2.38	2.46	2.44	2.50	2.54	2.63	2.73	2.78	2.81	2.89	2.90

B = Boys
G = Girls
W-H = Weight-height coefficient (weight ÷ height)
V-H = Vital-height coefficient (breathing capacity ÷ height)

Deductions: For each half-year that the pupil falls below normal figures for the weight-height coefficients given on Baldwin's cards for his age, deduct one and one-half points, also for each half-year below the normal for the vital-height coefficient. That is, three points are deducted from the possible score of twenty if the pupil falls a half-year below the norm for his age in both these coefficients, or six points for a full year's deviation below in both. Weight-height coefficient equals weight divided by height. Vital-height coefficient equals breathing capacity divided by height. The measures are for nude children and are perhaps a little high. (See Baldwin's bulletin published by the United States Bureau of Education and his report in the *Fifteenth Yearbook*.)

IV. Physical ability scale (Stecher's) ..... total score 25

Use the following revised scores for different abilities developed by Mr. W. A. Stecher as Director of Physical Education of the Public Schools of Philadelphia.*
Deductions: five points to be cut off for each year below standard for age and sex for *good* performances. (See following chart.)**

V. Mental qualities scale (Rapeer's) 15

100

This test is suggested in order to give some weight to several mental qualities not tested above—ability to coöperate, qualities of leadership displayed, willingness to practice good posture, good hygiene, and good, clean living, knowledge of physical education, etc.
Deductions: according somewhat to the probability curve.

0 to 2 points deducted for about 13 per cent of the children. Score 14–15
3 to 5 points deducted for about 20 per cent of the children. Score 12–13
6 to 10 points deducted for about 34 per cent of the children. Score 6–10
11 to 13 points deducted for about 20 per cent of the children. Score 3– 5
14 to 15 points deducted for about 13 per cent of the children. Score 0– 2

The percentages are based on a thousand or more pupils and can not be rigidly adhered to for a single class of forty pupils.

The part of the above scale dealing with mental qualities would seem less satisfactory than the preceding parts.

* See also his form of report and score sheet for determining the efficiency of a school in physical education, also his Educational Gymnastics, J. J. McVey Company, Philadelphia.

** The average of a pupil's attainments in at least eight of the twelve events is to be taken as his general mark on this scale. See page 297.

CHART SHOWING AGE-AIMS (AVERAGE PERFORMANCES) ALSO, IN PARENTHESES, GOOD PERFORMANCES, BY AGES AND SEX (AFTER STECHER)

Events		Years 8	9	10	11	12	13	14	15
Running 50 Yards	G	9.4 (9.0)	9.2 (8.8)	8.8 (8.4)	8.6 (8.2)	8.4 (8.0)	8.4 (8.0)	8.4 (7.8)	8.2 (7.6)
(In seconds and tenths)	B	9.0 (8.8)	8.8 (8.6)	8.4 (8.2)	8.2 (8.0)	8.0 (7.6)	7.8 (7.6)	7.6 (7.2)	7.4 (7.0)
Running 60 Yards	G	12.6 (10.0)	12.4 (9.8)	11.6 (9.2)	11.0 (9.0)	10.8 (8.6)	10.8 (8.2)	10.8 (8.6)	11.0 (9.4)
(In seconds and tenths)	B	11.8 (9.4)	11.4 (9.2)	10.8 (9.0)	10.4 (8.8)	10.0 (8.2)	9.8 (8.0)	9.4 (7.6)	9.0 (7.6)
Running 75 Yards	G	15.4 (12.4)	14.6 (11.0)	14.2 (10.4)	13.8 (10.2)	13.6 (10.2)	13.4 (10.4)	14.0 (11.0)	14.4 (11.8)
(In seconds and tenths)	B	14.1 (11.6)	13.6 (10.8)	13.2 (9.8)	12.6 (9.8)	12.2 (9.6)	11.8 (8.8)	11.4 (8.4)	11.0 (8.0)
Running 100 Yards	G	19.2 (18.0)	18.6 (16.8)	17.2 (15.8)	16.8 (15.6)	16.6 (15.6)	16.4 (15.4)	16.2 (15.4)	16.2 (15.2)
(In seconds and tenths)	B	19.2 (18.0)	18.6 (16.8)	17.2 (15.8)	16.2 (15.2)	15.4 (15.0)	15.0 (14.4)	14.2 (13.6)	13.4 (13.0)
Standing Broad Jump	G	3.0 (4.4)	3.1 (4.6)	3.3 (4.9)	3.6 (5.0)	3.8 (5.3)	3.10 (5.6)	4.0 (6.0)	4.1 (6.0)
(In feet and inches)	B	3.4 (4.4)	3.8 (4.10)	4.0 (5.4)	4.3 (5.10)	4.6 (6.3)	4.9 (6.6)	5.2 (6.10)	5.5 (7.4)
Running Broad Jump	G	5.5 (6.0)	5.6 (6.2)	5.10 (6.8)	6.6 (7.8)	7.2 (8.4)	8.0 (9.0)	9.0 (10.8)	9.0 (11.8)
(In feet and inches)	B	6.0 (6.9)	6.6 (7.0)	7.0 (7.6)	8.3 (9.1)	9.6 (10.8)	11.4 (12.2)	12.6 (13.5)	13.5 (14.7)
Triple Standing Broad Jump	G	10.4 (12.0)	10.6 (12.6)	10.10 (14.2)	12.1 (14.8)	12.5 (15.8)	12.9 (17.0)	13.0 (17.0)	13.10 (17.7)
(In feet and inches)	B	12.0 (14.3)	12.3 (14.8)	13.0 (15.9)	14.0 (16.9)	14.6 (18.7)	15.1 (19.0)	16.4 (20.7)	18.1 (22.4)
Running Hop, Step, and Jump	G (10 foot start)	9.2 (11.0)	11.6 (13.9)	13.8 (17.0)	14.6 (18.8)	15.5 (21.4)	15.6 (21.0)	16.4 (21.2)	16.6 (20.0)
(In feet and inches)	B (unlimited run)	10.0 (10.6)	13.0 (15.5)	16.4 (20.5)	18.0 (23.0)	18.8 (24.5)	19.9 (26.0)	21.7 (29.0)	23.0 (29.5)
Running High Jump	G	2.2 (2.6)	2.5 (2.8)	2.8 (2.10)	2.9 (3.0)	2.10 (3.2)	3.2 (3.3)	2.11 (3.1)	2.9 (3.1)
(In feet and inches)	B	2.2 (2.8)	2.5 (2.10)	2.8 (3.2)	2.11 (3.4)	3.1 (3.6)	3.4 (3.9)	3.6 (4.2)	3.9 (4.5)
Basketball Far Throw Overhead	G	12.2 (17.0)	13.8 (20.0)	15.5 (25.0)	17.7 (28.0)	19.4 (31.0)	21.3 (35.0)	22.2 (35.0)	23.4 (36.0)
(In feet and inches)	B	14.4 (19.0)	16.2 (22.0)	18.2 (26.0)	20.3 (30.0)	23.3 (35.6)	24.1 (37.0)	26.7 (37.6)	29.1 (39.0)
Basketball Round Arm Far Throw	G (one step permitted)	13.4 (25.0)	15.1 (31.0)	17.0 (36.0)	19.3 (38.0)	22.2 (42.0)	25.4 (53.0)	27.8 (55.0)	30.0 (57.0)
(In feet and inches)	B (one step permitted)	18.5 (36.0)	22.3 (44.0)	25.6 (47.0)	28.7 (53.0)	32.9 (60.0)	36.9 (70.0)	41.5 (73.0)	46.8 (73.0)
Indoor Baseball Far Throw	G (unlimited run)	23.0 (45.0)	25.9 (56.0)	30.6 (60.0)	35.0 (68.0)	43.0 (80.0)	48.9 (87.0)	53.0 (106.0)	53.5 (102.0)
	B (unlimited run)	37.7 (71.0)	47.4 (86.0)	57.2 (104.0)	67.0 (113.0)	77.2 (120.0)	88.0 (141.0)	102.1 (151.0)	108.1 (187.0)

The New York state test.—A state wide test was carried out in the public schools of New York state in 1919-1920. Such a test, to be successful, involves a great deal of care in organization. For the first year of the test over three hundred thousand children competed. Results came in from fifty-six cities and two hundred and three villages, involving the participation of 80 per cent of the school enrolment. The test is given in full. The circular and scoring table are models of clearness. They are responsible in large measure for the success of the undertaking.

THE UNIVERSITY OF THE STATE OF NEW YORK

THE STATE DEPARTMENT OF EDUCATION

A Plan For a Statewide Physical Ability Test

This circular contains suggestions and plans for carrying out a simple physical efficiency test of boys and girls above the sixth grade, based on physical ability in fundamental athletics: (1) running, (2) jumping, (3) chinning for boys, and (1) running, (2) running and catching, (3) throwing for girls.

The events are already known throughout the State. They are used in recreation and class work. The plan submitted here provides a way to score these events and to compare the results. The plan is simple enough to be easily used by a school that has never before given such tests. It is also comprehensive enough to include the largest city system in the State and provide equal and fair opportunity to the smallest village high school. It provides suggestions for score sheets and methods of tabulating results and a form of report for submitting final totals to the State Department so that statewide championships may be announced. The tests will not take the place of the interschool athletic meets of usual type where selected athletes represent each school, but should be conducted well in advance of such a field day and will contribute to it by helping determine who the best candidates are for the selected teams.

Details of Test

A contest open to all secondary schools and seventh and eighth grades in the State.

Conditions.—Eighty per cent of the enrolment on May 1 must be tested between May 1 and May 22, results tabulated as outlined below and report sent in on or before May 26.

Awards.—The state will be divided into five sections and the winning city, high school class, and grade scores announced in each.

Section 1 includes all cities of the first and second class
Section 2 includes all cities of the third class
Section 3 includes all villages having a superintendent of schools
Section 4 includes all villages under district superintendents having ten or more teachers or that employ their own director of physical education
Section 5 includes all villages having secondary schools under sole supervision of state teachers of physical education

The grand champions for the State will also be announced (212 winners in all).

Any school, class, or grade in section 1 (cities of first and second class) may compete for sectional and state honors, provided it meets the requirements of the test, even if the city as a unit does not compete for grand championships.

Pupil classification.—Two divisions for scoring standards; junior division includes seventh and eighth grades and first year high schools;

EVENTS AND SCORING STANDARDS

BOYS	JUNIOR STANDARDS			SENIOR STANDARDS		
	Min. (0)	Honor (50)	Max. (100)	Min. (0)	Honor (50)	Max. (100)
1 100 yard dash—5 points for every 1/5 second better than minimum	16 sec.	14 sec.	12 sec.	15 sec.	13 sec.	11 sec.
2 Standing broad jump (2 trials; use best)—2 points for every inch better than minimum	4′ 5″	6′ 6″	8′ 7″	4′ 11″	7′	9′ 1″
3 Pull-ups (chinning the bar)—10 points for every pull-up better than minimum	0 times	5 times	10 times	2 times	7 times	12 times

GIRLS	JUNIOR STANDARDS			SENIOR STANDARDS		
	Min. (0)	Honor (50)	Max. (100)	Min. (0)	Honor (50)	Max. (100)
1 50 yard dash—5 points for every 1/5 second better than minimum	10 1/5″	8 1/5″	6 1/5″	9 4/5″	7 4/5″	5 4/5″
2 Running and catching—2 points every 1/5 second better than minimum	27″	22″	17″	25″	20″	15″
3 Basketball, far throw (2 throws; use best)—2 points for every foot better than minimum	13′	38′	63′	17′	42′	67′

senior division includes second, third, and fourth years of high school. Those pupils taking work in more than one grade or class shall be considered in the advanced class if they are taking two or more subjects in that class. Postgraduates and training class pupils are not to be included, so do not count in the enrolment.

Rules for events.—The usual rules of the Amateur Athletic Union shall govern the running and jumping events. Timing must be by stop watch. Contestants may not run or jump in spike shoes; sneakers or rubber-soled shoes are required to make it fair for the many contestants who would not have spikes.

Detailed rules for the girls' events nos. 2 and 3 may be found in New York State Physical Training Syllabus, page 193.

Conducting the test.—All local plans shall be in charge of the local school officials. The director of physical education and principals and teachers of the schools concerned shall run off events and make computations of class and school scores. The results for the entire system shall be forwarded by the superintendent of schools who shall certify as to enrolment etc. on blank similar to one shown below.

In section 4 schools, principals shall certify to and forward results.

In section 5 schools, results shall go from principal of school to his state teacher of physical education, who shall make tabulations and comparisons for use in the awarding for zone championships before sending final tabulations to state office.

The state supervisor of physical education will make such check upon the returns as may be necessary before announcing the winners.

Scoring; individual and class.—The points made in the three events by each pupil are to be added together and divided by 3 to get the pupil's score. All who equal or exceed the honor standard, 50 points, in each and all events, shall be considered to have passed the test with *honor*. All whose average or final score equals or exceeds 75, with *high honor*.

The total of the pupil scores of 80 per cent of the boys enrolled is to be divided by that number (80 per cent) to get boys' scores for class, and same for 80 per cent of girls. The final class score is determined by dividing the total of points made by both boys and girls by the total competing.

The school score is found by adding totals of classes and dividing by number of contestants. City score is computed by adding totals of schools and dividing by number of pupils competing. Local officials should announce individual, class, and school awards.

Purpose of 20 Per Cent

The 20 per cent whose record is not asked for is intended first of all to include those physically unfit to compete, those who are absent for

any reason, and the balance may be made up of those who make the lowest scores in the test.

Medical safeguards.—The school medical certificate should be consulted to determine the physical fitness of each individual to compete in the test. Doubtful cases, such as those who may have been recently ill or whose regular class work in physical education leads the physical director to doubt their condition, should be referred to the school medical authority for examination before being allowed to enter the events.

SCORE SHEET

Make one sheet for boys and one for girls of each grade and class: *Town or city* (*Roxbury*); *School* (5); *Prin.* (*J. W. Smith*); *Grade or class* (8th grade) *No. of pupils enrolled May 1:* Boys (5); Girls (9).

NAMES	(BOYS' EVENTS)									Total pts.	Average or score	Hon. record
	1 DASH			2 JUMP			3 PULL-UPS					
	Time	Pts.	Hon.	Dist.	Pts.	Hon.	No.	Pts.	Hon.			
Adams, J.	14″	50	H	6′ 10″	58	H	6	60	H	168	56	H
Burns, W.	15″	25	. . . .	6′ 6″	50	H	2	20	. . . .	95	31.7	. . . . .
Smith, F.	13″	75	HH	8′	86	HH	10	100	HH	261	87	High H
Taylor, P.	16½″	0	. . . . .	7′	62	H	14	100	HH	162	54	. . . . .
Total no. boys competing (80%) = 4	Total pupil scores . . 228.7 Total pupil scores 228.7 ÷ no. of pupils (4) = grade score = 57.17 = 57.21											
	Date (May 5, 1920); *Test conducted by* (Miss Smith); *Phy. Dir., Teacher*											

Scoring Rules and Suggestions

In computing scores carry out one decimal point if necessary; if second number in decimal would be .05 or over add .1 to result, if second number is less than .05 disregard it. Illustration above: Burns, 95 total ÷ 3 = 31.66; score it 31.7.

It is usually best to conduct events and record results without waiting to compute points, at time of test. Make computations in office later with help of teacher and announce results following day.

Events may be run off all in one day or a different day taken for each one. Complete each event if possible on day it is started.

Allow only one *official test for each event.*

SUMMARY SHEET

For use in recording class scores and computing school fina score
(In large cities one copy should be filed at local school and one at main office of director of physical education for the city)

School..... *Principal*.....

Senior division	BOYS			GIRLS			CLASS TOTALS		
	80 % Enrolment	Total points	Score	80 % Enrolment	Total points	Score	80 % Enrolment	Total points	Score
4th year high.....									
3d year high.....									
2d year high.....									
Senior totals.....									
Junior division									
1st year high.....									
8th grade.....									
7th grade.....									
Junior totals.....									
Grand totals.....									

Final school score = total points divided by total enrolment.....

FINAL REPORT

One copy to be kept on file and one to be sent to STATE SUPERVISOR of PHYSICAL EDUCATION, Education Building, Albany, N. Y., within three days of completion of test and not later than May 26.

Place..... *Date*.....

ENROLMENT	80%	TOTAL POINTS
Senior Division—Boys.....		
Senior Division—Girls.....		
Junior Division—Boys.....		
Junior Division—Girls.....		
Total.....		

Score for city: Total points, divided by 80 per cent = final city score.....

BEST CLASS SCORES

Senior division	SCORE	NAME OF SCHOOL AND NO.
4th year high—boys		
4th year high—girls		
3d year high—boys		
3d year high—girls		
2d year high—boys		
2d year high—girls		

Junior division	SCORE	NAME OF SCHOOL AND NO.
1st year high—boys		
1st year high—girls		
8th grade—boys		
8th grade—girls		
7th grade—boys		
7th grade—girls		

I certify that to the best of my knowledge the above record is correct and that the tests were conducted according to rules.

[*Signed*].....*Supt. or Prin.*

.....*Director of Physical Education or teacher in charge of test*

ENTRY BLANK FORM

The following statement should be mailed on or before *May 8*, if a school system wishes to compete in the state contest, to the State Supervisor of Physical Education, Education Department, Albany, N. Y.

Place.....*Date*.....

Our schools intend to try out the efficiency test and will submit results on or before May 26.

[*Signed*].....*Supt., Prin. or Director of Physical Education*

THE UNIVERSITY OF THE STATE OF NEW YORK

THE STATE DEPARTMENT OF EDUCATION

Scoring Table

New York State Physical Ability Test

POINTS	BOYS						POINTS
	100 YD. DASH 5 pts. every $\frac{1}{5}$ sec.		STANDING BROAD JUMP 2 pts. every inch		PULL-UPS 10 pts. every pull up		
	Jrs.	Srs.	Jrs.	Srs.	Jrs.	Srs.	
0	16 sec.	15 sec.	4 ft. 5 in.	4 ft. 11 in.	0	2	0
2	.....	.....	6 "	5 ft.	.....	.....	2
4	.....	.....	7 "	1 "	.....	.....	4
5	$15\frac{4}{5}$ sec.	$14\frac{4}{5}$ sec.	.....	.....	.....	.....	5
6	.....	.....	8 in.	2 in.	.....	.....	6
8	.....	.....	9 "	3 "	.....	.....	8
10	$15\frac{3}{5}$ sec.	$14\frac{3}{5}$ sec.	10 "	4 "	1	3	10
12	.....	.....	11 "	5 "	.....	.....	12
14	.....	.....	5 ft.	6 "	.....	.....	14
15	$15\frac{2}{5}$ sec.	$14\frac{2}{5}$ sec.	.....	.....	.....	.....	15
16	.....	.....	1 in.	7 in.	.....	.....	16
18	.....	.....	2 "	8 "	.....	.....	18
20	$15\frac{1}{5}$ sec.	$14\frac{1}{5}$ sec.	3 "	9 "	2	4	20
22	.....	.....	4 "	10 "	.....	.....	22
24	.....	.....	5 "	11 "	.....	.....	24
25	15 sec.	14 sec.	5 ft. $5\frac{1}{2}$ in.	5 ft. $11\frac{1}{2}$ in.	.....	.....	25
26	.....	.....	6 in.	6 ft.	.....	.....	26
28	.....	.....	7 "	1 in.	.....	.....	28
30	$14\frac{4}{5}$ sec.	$13\frac{4}{5}$ sec.	8 "	2 "	3	5	30
32	.....	.....	9 "	3 "	.....	.....	32
34	.....	.....	10 "	4 "	.....	.....	34
35	$14\frac{3}{5}$ sec.	$13\frac{3}{5}$ sec.	.....	.....	.....	.....	35
36	.....	.....	11 in.	5 in.	.....	.....	36
38	.....	.....	6 ft.	6 "	.....	.....	38
40	$14\frac{2}{5}$ sec.	$13\frac{2}{5}$ sec.	1 "	7 "	4	6	40
42	.....	.....	2 "	8 "	.....	.....	42
44	.....	.....	3 "	9 "	.....	.....	44
45	$14\frac{1}{5}$ sec.	$13\frac{1}{5}$ sec.	.....	.....	.....	.....	45
46	.....	.....	4 in.	10 in.	.....	.....	46
48	.....	.....	5 "	11 "	.....	.....	48
50	14 sec.	13 sec.	6 ft. 6 in.	7 ft.	5	7	50

POINTS	BOYS						POINTS
	100 YD. DASH 5 pts. every $\frac{1}{5}$ sec.		STANDING BROAD JUMP 2 pts. every inch		PULL-UPS 10 pts. every pull-up		
	Jrs.	Srs.	Jrs.	Srs.	Jrs.	Srs.	
52	.....	.....	7 in.	1 in.	.....	.....	52
54	.....	.....	8 "	2 "	.....	.....	54
55	13$\frac{4}{5}$ sec.	12$\frac{4}{5}$ sec.	.....	.....	.....	.....	55
56	.....	.....	9 in.	3 in.	.....	.....	56
58	.....	.....	10 "	4 "	.....	.....	58
60	13$\frac{3}{5}$ sec.	12$\frac{3}{5}$ sec.	11 "	5 "	6	8	60
62	.....	.....	7 ft.	6 "	.....	.....	62
64	.....	.....	1 "	7 "	.....	.....	64
65	13$\frac{2}{5}$ sec.	12$\frac{2}{5}$ sec.	.....	.....	.....	.....	65
66	.....	.....	2 in.	8 in.	.....	.....	66
68	.....	.....	3 "	9 "	.....	.....	68
70	13$\frac{1}{5}$ sec.	12$\frac{1}{5}$ sec.	4 "	10 "	7	9	70
72	.....	.....	5 "	11 "	.....	.....	72
74	.....	.....	6 "	8 ft.	.....	.....	74
75	13 sec.	12 sec.	7 ft. 6$\frac{1}{2}$ in.	8 ft. $\frac{1}{2}$ in.	.....	.....	75
76	.....	.....	7 in.	1 in.	.....	.....	76
78	.....	.....	8 "	2 "	.....	.....	78
80	12$\frac{4}{5}$ sec.	11$\frac{4}{5}$ sec.	9 "	3 "	8	10	80
82	.....	.....	10 "	4 "	.....	.....	82
84	.....	.....	11 "	5 "	.....	.....	84
85	12$\frac{3}{5}$ sec.	11$\frac{3}{5}$ sec.	.....	.....	.....	.....	85
86	.....	.....	8 ft.	6 in.	.....	.....	86
88	.....	.....	1 in.	7 "	.....	.....	88
90	12$\frac{2}{5}$ sec.	11$\frac{2}{5}$ sec.	2 "	8 "	9	11	90
92	.....	.....	3 "	9 "	.....	.....	92
94	.....	.....	4 "	10 "	.....	.....	94
95	12$\frac{1}{5}$ sec.	11$\frac{1}{5}$ sec.	.....	.....	.....	.....	95
96	.....	.....	5 in.	11 in.	.....	.....	96
98	.....	.....	6 "	9 ft.	.....	.....	98
100	12 sec.	11 sec.	8 ft. 7 in.	9 ft. 1 in.	10	12	100

THE UNIVERSITY OF THE STATE OF NEW YORK

THE STATE DEPARTMENT OF EDUCATION

Score Table

New York State Physical Ability Test

POINTS	GIRLS						POINTS
	50 YD. DASH 5 pts. every $\frac{1}{5}$ sec.		RUNNING AND CATCHING 2 pts. every $\frac{1}{5}$ sec.		BASKETBALL FAR THROW 2 pts. every foot		
	Jrs.	Srs.	Jrs.	Srs.	Jrs.	Srs.	
0	$10\frac{1}{5}$ sec.	$9\frac{4}{5}$ sec.	27 sec.	25 sec.	13 ft.	17 ft.	0
2	.....	.....	$26\frac{4}{5}$ "	$24\frac{4}{5}$ "	14 "	18 "	2
4	.....	.....	$26\frac{3}{5}$ "	$23\frac{3}{5}$ "	15 "	19 "	4
5	10 sec.	$9\frac{3}{5}$ sec.	.....	.....	$15\frac{1}{2}$ "	$19\frac{1}{2}$ "	5
6	.....	.....	$26\frac{2}{5}$ sec.	$23\frac{2}{5}$ sec.	16 "	20 "	6
8	.....	.....	$26\frac{1}{5}$ "	$23\frac{1}{5}$ "	17 "	21 "	8
10	$9\frac{4}{5}$ sec.	$9\frac{2}{5}$ sec.	26 "	23 "	18 "	22 "	10
12	.....	.....	$25\frac{4}{5}$ "	$22\frac{4}{5}$ "	19 "	23 "	12
14	.....	.....	$25\frac{3}{5}$ "	$22\frac{3}{5}$ "	20 "	24 "	14
15	$9\frac{3}{5}$ sec.	$9\frac{1}{5}$ sec.	.....	.....	$20\frac{1}{2}$ "	$24\frac{1}{2}$ "	15
16	.....	.....	$25\frac{2}{5}$ sec.	$22\frac{2}{5}$ sec.	21 "	25 "	16
18	.....	.....	$25\frac{1}{5}$ "	$22\frac{1}{5}$ "	22 "	26 "	18
20	$9\frac{2}{5}$ sec.	9 sec.	25 "	22 "	23 "	27 "	20
22	.....	.....	$24\frac{4}{5}$ "	$21\frac{4}{5}$ "	24 "	28 "	22
24	.....	.....	$24\frac{3}{5}$ "	$21\frac{3}{5}$ "	25 "	29 "	24
25	$9\frac{1}{5}$ sec.	$8\frac{4}{5}$ sec.	.....	.....	$25\frac{1}{2}$ ft.	$29\frac{1}{2}$ ft.	25
26	.....	.....	$24\frac{2}{5}$ sec.	$21\frac{2}{5}$ sec.	26 ft.	30 ft.	26
28	.....	.....	$24\frac{1}{5}$ "	$21\frac{1}{5}$ "	27 "	31 "	28
30	9 sec.	$8\frac{3}{5}$ sec.	24 "	21 "	28 "	32 "	30
32	.....	.....	$23\frac{4}{5}$ "	$20\frac{4}{5}$ "	29 "	33 "	32
34	.....	.....	$23\frac{3}{5}$ "	$20\frac{3}{5}$ "	30 "	34 "	34
35	$8\frac{4}{5}$ sec.	$8\frac{2}{5}$ sec.	.....	.....	$30\frac{1}{2}$ "	$34\frac{1}{2}$ "	35
36	.....	.....	$23\frac{2}{5}$ sec.	$20\frac{2}{5}$ sec.	31 "	35 "	36
38	.....	.....	$23\frac{1}{5}$ "	$20\frac{1}{5}$ "	32 "	36 "	38
40	$8\frac{3}{5}$ sec.	$8\frac{1}{5}$ sec.	23 "	20 "	33 "	37 "	40
42	.....	.....	$22\frac{4}{5}$ "	$19\frac{4}{5}$ "	34 "	38 "	42
44	.....	.....	$22\frac{3}{5}$ "	$19\frac{3}{5}$ "	35 "	39 "	44
45	$8\frac{2}{5}$ sec.	8 sec.	.....	.....	$35\frac{1}{2}$ "	$39\frac{1}{2}$ "	45
46	.....	.....	$22\frac{2}{5}$ sec.	$19\frac{2}{5}$ sec.	36 "	40 "	46
48	.....	.....	$22\frac{1}{5}$ "	$19\frac{1}{5}$ "	37 "	41 "	48
50	$8\frac{1}{5}$ sec.	$7\frac{4}{5}$ sec.	22 sec.	19 sec.	38 ft.	42 ft.	50

POINTS	GIRLS						POINTS
	50 YD. DASH 5 pts. every $\frac{1}{5}$ sec.		RUNNING AND CATCHING 2 pts. every $\frac{1}{5}$ sec.		BASKETBALL FAR THROW 2 pts. every foot		
	Jrs.	Srs.	Jrs.	Srs.	Jrs.	Srs.	
52	.....	.....	$21\frac{4}{5}$ sec.	$18\frac{4}{5}$ sec.	39 ft.	43 ft.	52
54	.....	.....	$21\frac{3}{5}$ "	$18\frac{3}{5}$ "	40 "	44 "	54
55	8 sec.	$7\frac{3}{5}$ sec.	.....	.....	$40\frac{1}{2}$ "	$44\frac{1}{2}$ "	55
56	.....	.....	$21\frac{2}{5}$ sec.	$18\frac{2}{5}$ sec.	41 "	45 "	56
58	.....	.....	$21\frac{1}{5}$ "	$18\frac{1}{5}$ "	42 "	46 "	58
60	$7\frac{4}{5}$ sec.	$7\frac{2}{5}$ sec.	21 "	18 "	43 "	47 "	60
62	.....	.....	$20\frac{4}{5}$ "	$17\frac{4}{5}$ "	44 "	48 "	62
64	.....	.....	$20\frac{3}{5}$ "	$17\frac{3}{5}$ "	45 "	49 "	64
65	$7\frac{3}{5}$ sec.	$7\frac{1}{5}$ sec.	.....	.....	$45\frac{1}{2}$ "	$49\frac{1}{2}$ "	65
66	.....	.....	$20\frac{2}{5}$ sec.	$17\frac{2}{5}$ sec.	46 "	50 "	66
68	.....	.....	$20\frac{1}{5}$ "	$17\frac{1}{5}$ "	47 "	51 "	68
70	$7\frac{2}{5}$ sec.	7 sec.	20 "	17 "	48 "	52 "	70
72	.....	.....	$19\frac{4}{5}$ "	$16\frac{4}{5}$ "	49 "	53 "	72
74	.....	.....	$19\frac{3}{5}$ "	$16\frac{3}{5}$ "	50 "	54 "	74
75	$7\frac{1}{5}$ sec.	$6\frac{4}{5}$ sec.	.....	.....	$50\frac{1}{2}$ ft.	$54\frac{1}{2}$ ft.	75
76	.....	.....	$19\frac{2}{5}$ sec.	$16\frac{2}{5}$ sec.	51 ft.	55 ft.	76
78	.....	.....	$19\frac{1}{5}$ "	$16\frac{1}{5}$ "	52 "	56 "	78
80	7 sec.	$6\frac{3}{5}$ sec.	19 "	16 "	53 "	57 "	80
82	.....	.....	$18\frac{4}{5}$ "	$15\frac{4}{5}$ "	54 "	58 "	82
84	.....	.....	$18\frac{3}{5}$ "	$15\frac{3}{5}$ "	55 "	59 "	84
85	$6\frac{4}{5}$ sec.	$6\frac{2}{5}$ sec.	.....	.....	$55\frac{1}{2}$ "	$59\frac{1}{2}$ "	85
86	.....	.....	$18\frac{2}{5}$ sec.	$15\frac{2}{5}$ sec.	56 "	60 "	86
88	.....	.....	$18\frac{1}{5}$ "	$15\frac{1}{5}$ "	57 "	61 "	88
90	$6\frac{3}{5}$ sec.	$6\frac{1}{5}$ sec.	18 "	15 "	58 "	62 "	90
92	.....	.....	$17\frac{4}{5}$ "	$14\frac{4}{5}$ "	59 "	63 "	92
94	.....	.....	$17\frac{3}{5}$ "	$14\frac{3}{5}$ "	60 "	64 "	94
95	$6\frac{2}{5}$ sec.	6 sec.	.....	.....	$60\frac{1}{2}$ "	$64\frac{1}{2}$ "	95
96	.....	.....	$17\frac{2}{5}$ sec.	$14\frac{2}{5}$ sec.	61 "	65 "	96
98	.....	.....	$17\frac{1}{5}$ "	$14\frac{1}{5}$ "	62 "	66 "	98
100	$6\frac{1}{5}$ sec.	$5\frac{4}{5}$ sec.	17 sec.	14 sec.	63 ft.	67 ft.	100

Statistical Study of Motor Performance

A great deal of attention is being directed at a careful study of the performances of boys and girls on standard

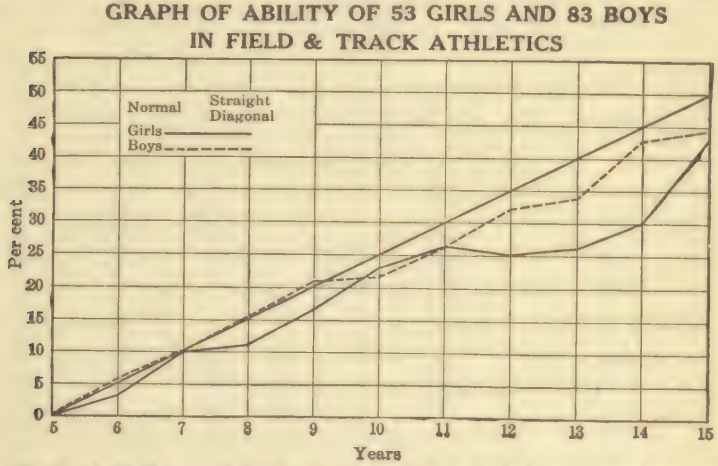

Fig. 14. After the age of eleven years boys show a marked superiority in athletic ability over girls.

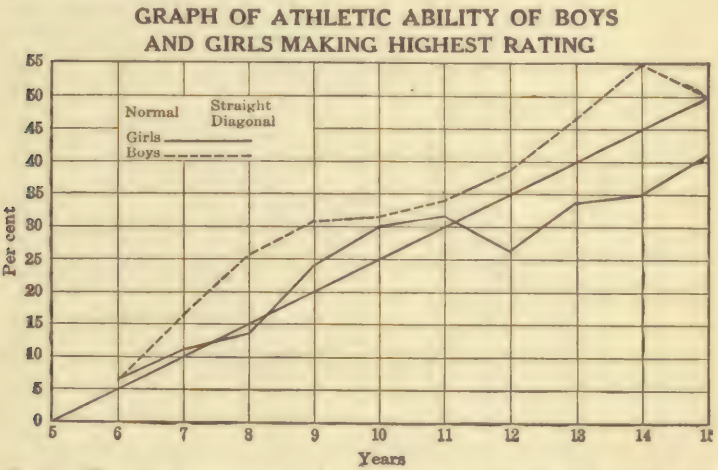

Fig. 15. The athletic superiority of boys over girls is more marked among the best athletes.

events with reference to securing data on what children can do and also to increase interest in physical activities. Gilchrist* reports a form of socialized athletics in which the team scoring value is determined by the performance of each contestant. The graphs in figures 14 and 15 show the athletic ability of boys and girls studied by Gilchrist.

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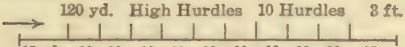
APPENDIX A

Diagrams and Measurements of Fields and Courts used in Physical Education Activities

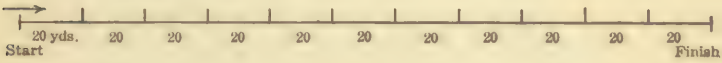
Hurdles (Men)

120 yd. High Hurdles 10 Hurdles 3 ft. 6 in. high



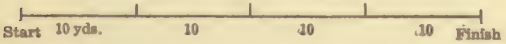
220 yd. Low Hurdles

10 Hurdles 2 ft. 6 in. high

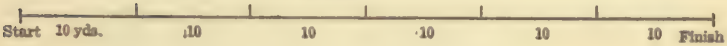


Hurdles (Women)

40 yds. 3 Hurdles 3 ft. 6 in. high

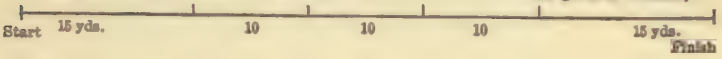


60 yds. 5 Hurdles 2 ft. 6 in. high



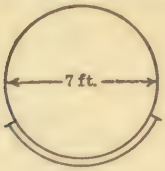
60 yds. 4 Hurdles 2 ft. 6 in. high

(Generally accepted as the most desirable for girls & women)

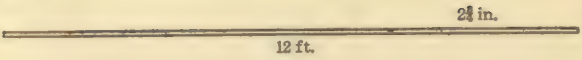


Baseball & Basket Ball Distance Throw

Shot Put & Discus

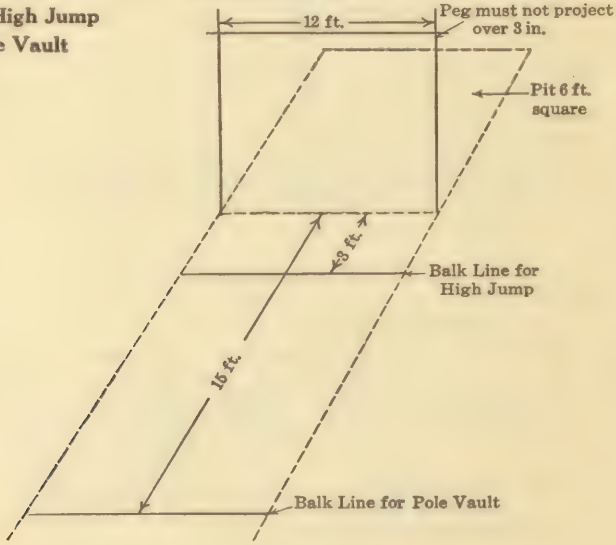


Javelin

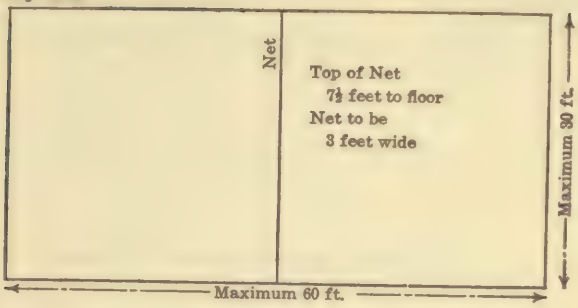


Running Broad Jump

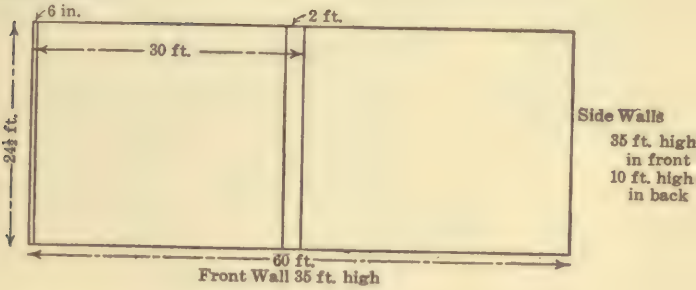
Running High Jump & Pole Vault



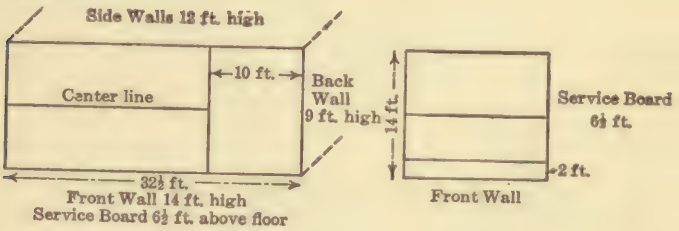
Volley Ball



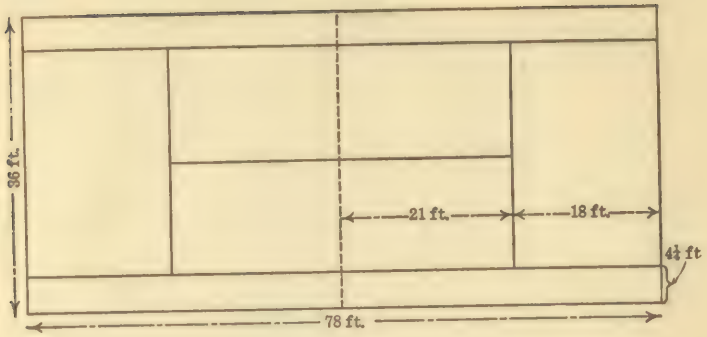
Hand Ball



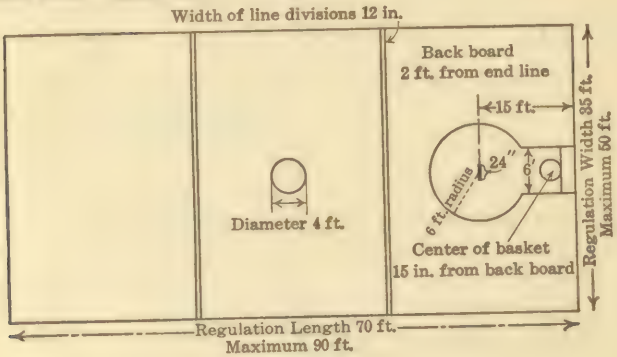
Squash Tennis



Tennis



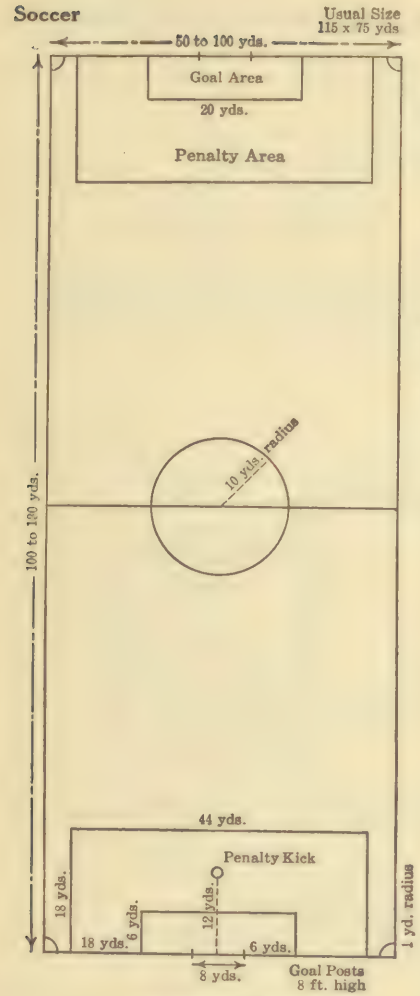
Basket Ball (Line Game) (Women)



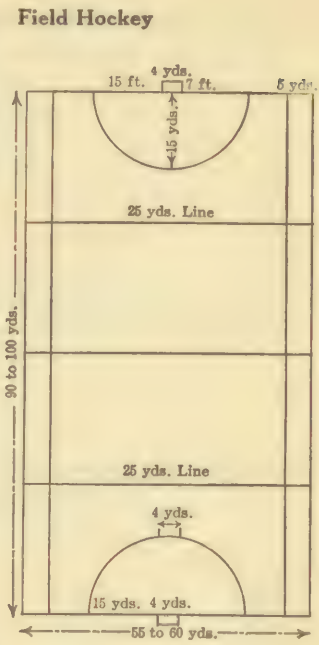
Basket Ball (Mens Court)

As above without division lines & with following size

Maximum length 90 ft.
Maximum width 50 ft.
Minimum length 60 ft.
Minimum width 35 ft.
General length 70 ft.
General width 50 ft.

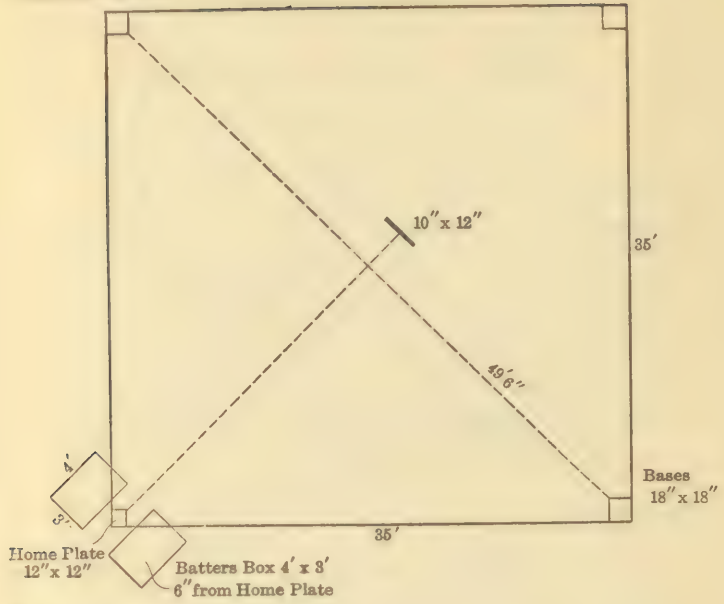


Desirable size for girls
Length 90 yds.
Width 60 yds.

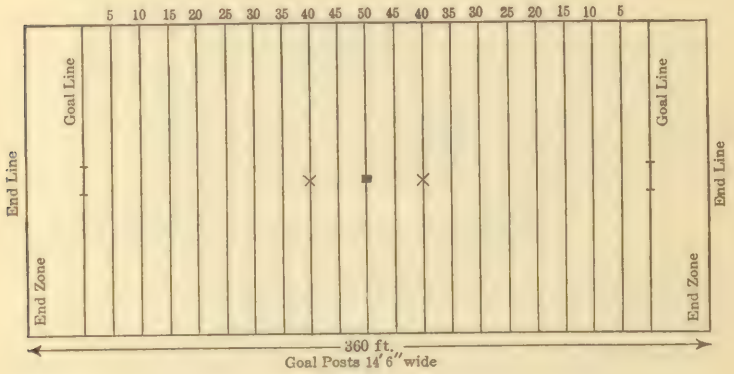


Desirable size for girls
Length 75 yds.
Width 55 yds.

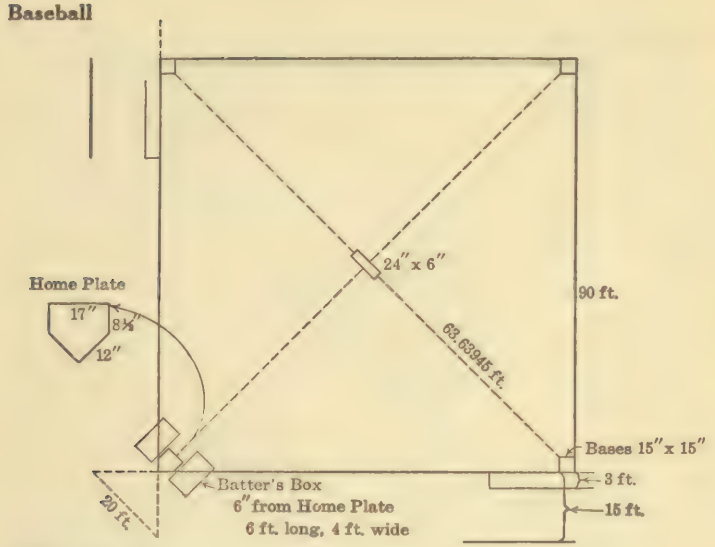
Playground Ball



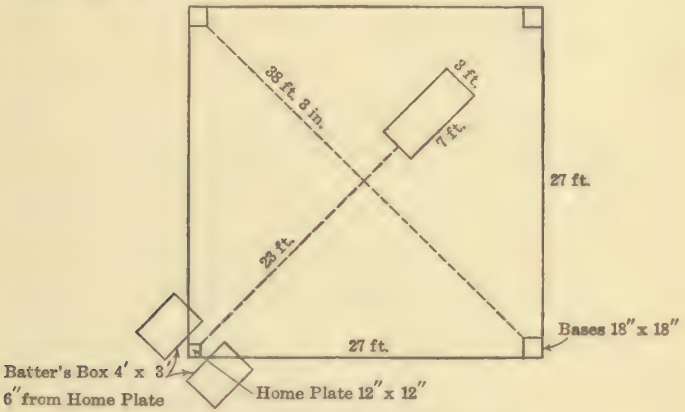
Football



Baseball



Indoor Baseball



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APPENDIX B

Equipment for Physical Education

I. One Room Rural School

A. Situation

Fifteen to thirty children. Outdoor play space available. Regular teacher. No covered outdoor playground.

B. Minimum Equipment

Two basketballs, 1 soccer ball, 3 playground balls (or 3 indoor baseballs, No. 12, medium hard), 2 indoor baseball bats, 1 volley ball, 1 volley ball net and standards, 1 jump standards, 1 horizontal bar.

II. Two Room Rural School

A. Situation

Sixty to eighty children. Outdoor play space available. Regular teacher. No covered outdoor playground.

B. Minimum Equipment

Two basketballs, 1 soccer ball, 5 playground balls (or 5 indoor baseballs, No. 12, medium hard), 2 volley balls and 2 volley ball nets and standards, 2 indoor baseball bats, 2 jump standards, 2 horizontal bars.

III. Village or Town Elementary School

A. Situation

Six grades, two hundred to three hundred pupils. Outdoor play space available such as yard or field. Regular class teachers. No gymnasium.

B. Minimum Equipment

Two basketballs, 2 playground balls (or 2 indoor baseballs, No. 12, medium hard), 2 indoor baseball bats, 1 volley ball, 1 volley ball net and standards, 1 sand box, 6 climbing ropes, 1 jumping pit.

IV. City Elementary School

A. Situation

Six grades, four hundred to five hundred pupils. No outdoor play space available except street. Corridors present limited use. Regular class teacher. No gymnasium.

B. Minimum Equipment

Four basketballs, 4 playground balls, 4 indoor baseball bats, 2 volley balls, 2 volley ball nets and standards (weighted base), 2 mats for use in corridor.

V. Gymnasium for Elementary Children

A. Situation

Six grades. Boys and girls, classes separate after the fourth grade. Thirty to forty children in a class. Gymnasium 30′ x 40′.

B. Minimum Equipment

Two basketballs, 1 volley ball, net and standards, 2 indoor baseballs No. 12, 2 bats, 8 climbing ropes, stall bars to serve as climbing ladders, 4 mats 4′ x 4′, 4 balance beams, 4 bean bags, 2 jump standards.

VI. A. Gymnasium for High School Boys

Minimum Equipment

Four basketballs, 2 volley balls, 2 nets and 2 standards, 4 indoor baseballs, No. 12, 2 bats, 2 bucks, 2 vaulting boxes, 2 jump standards, 8 mats 6′ x 8′, 1 low horizontal bar, 1 high horizontal bar, 6 ropes.

B. Gymnasium for High School Girls

Minimum Equipment

Four basketballs, 2 volley balls, 2 nets and standards, 4 indoor baseballs, No. 12, 2 bats, 2 jump standards, 6 mats 4′ x 6′, 12 ropes, 2 vaulting boxes, set of 12 stall bars and benches.

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